

INCIDENT DATA COLLECTION

A TECHNICAL MEMORANDUM

**Crash Analysis of New Jersey's Roadways
in the DVRPC Region
2002-2004**



**Delaware Valley Regional
Planning Commission**

February 2008

Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty and intercity agency that 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 requests 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.

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1. INTRODUCTION

To meet the requirements of the federal transportation legislation Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), metropolitan planning organizations are expanding their safety planning efforts to reduce crashes, injuries and fatalities, and raise awareness of the vital role safety plays in the transportation planning process. In pursuit of SAFETEA-LU goals, this project aimed to create a baseline of safety data for the New Jersey portion of the DVRPC region. This will allow for many types of comparisons and summaries, as well as provide an additional layer of data for use in identifying candidate projects and future study locations under the safety program.

This report represents the next installment of the Incident Data Collection project. This effort focuses on a different data set: the New Jersey Department of Transportation Crash Records Database. The analysis was expanded to include all county and higher facilities in DVRPC's four New Jersey counties: Burlington, Camden, Gloucester and Mercer. Data for years 2002-2004 were utilized. Phases one and two of this effort concentrated on the analysis of incident data collected from the New Jersey Traffic Operations Center, Incident Management Response Team, and lane closure data. The focus of these installments of the report was on the state, interstate and US routes for which data was available.

This installment of the project also utilized an important development in database analysis. This tool, called the "Cluster Finder," was designed especially for analyzing crash data and was fully utilized for this project. It identifies concentrations of crashes along a given route which meet user specified criteria. Utilizing an algorithm designed to work with the structure of NJDOT's Crash Records Database, the Cluster Finder searches for a minimum number of crashes occurring along roadway segments of a set length, both inputs specified by the user. The resulting cluster table provides the route number, beginning and ending mileposts and the total number of crashes, for each identified cluster. This simplifies and automates the initial step of identifying concentrations of crashes. Before the Cluster Finder, this work was performed manually using GIS or database output, both time consuming methods. Clusters can then be prioritized by total crashes. Combined, the route crash summaries and identified clusters provide a comprehensive set of data results for the New Jersey portion of DVRPC's region.

There are two items that comprise the analysis results intended to be companion pieces. First is this document which highlights crash totals and crash clusters by route for inter-county facilities, and by county for intra-county facilities. Second is the accompanying data disc which has two components. The two components comprise spreadsheets containing reference tables linked to an individual sheet for each route containing a three-year crash summary and the identified clusters and GIS shape files of the identified clusters. These files contain all the identified cluster information, as well as, the county and municipality where the cluster is located. Since each of DVRPC's New Jersey counties are GIS ready, these shape files can be used interactively with county specific data layers, or any other GIS data layer, for further analysis. This data can also serve as a starting point for county agencies developing safety management systems or as an additional component to an evolving system.

2. DATA

Crash Records Database

Data for years 2002-2004 from the New Jersey Department of Transportation Crash Records Database was utilized for this analysis. Only crash records having a populated milepost field were useful in this analysis. Together with State Route Identifier (SRI), these two fields (SRI and milepost) contain the geographic reference information necessary for mapping crash data within a geographic information system (GIS). Records with an unpopulated milepost field were omitted from the analysis because they cannot be mapped. In summary, the database was utilized in its original form without modifications.

For the three-year analysis period there were 99,574 crash records with milepost information in the database for the four New Jersey counties in the DVRPC region. The entire database covering DVRPC's four New Jersey counties for years 2002-2004—including those records with a null milepost value—contains 160,235 records. There are two reasons for the large disparity in total records between the milepost total and the all records total. First, NJDOT does not provide milepost information for several road system types, including: state or county parks, municipal, private property and U.S. government property. However, crashes occurring on these roads are included in the database. Second, a small percentage of records contain data errors due to miscoding.

This is the only data set that provides crash data for all non-local roads in New Jersey. DVRPC has been using this crash records database in planning studies since it was first posted to NJDOT's crash records web page in 2000.

Straight Line Diagram

The NJDOT Straight Line Diagram database was also utilized to obtain roadway information including road name, State Route Identifier (SRI), route length, milepost limits, counties served and direction of travel. This data set is considered to be the definitive resource of roadway information in New Jersey.

3. METHODOLOGY

There are two types of data analysis results presented in this report: 1) three-year crash totals with select characteristics; and 2) crash clusters. The analysis was performed on the following route types in each of the four New Jersey counties in DVRPC's region:

- 500, 600, and 700 series county routes
- State routes
- Interstate routes
- US routes

Crash Summaries

A three-year crash summary was performed on each route representing the route length within the four counties using a set of queries that extracted select items from the database. These summaries are included in the accompanying data disc. For 600 and 700 series county routes, the data analysis is county specific because these routes are intra-county. It is also important to note that 600 and 700 route numbers are not unique and may be repeated in multiple counties. Because 500 series, state, interstate and U.S. routes are inter-county, the data reflects the entire route length within the DVRPC region, traversing one to four counties.

The data results reflect total crashes for the 2002-2004 analysis period. Modeled after NJDOT's Crash Summary Reports, the route crash summaries present the results according to these categories:

- **Total crashes**
- **Collision type (twelve categories)**
 - Same Direction - Rear-end
 - Same Direction - Sideswipe
 - Angle
 - Left Turn
 - Head On
 - Overturned
 - Pedestrian
 - Fixed Object
 - Animal
 - Parked Vehicle
 - Pedalcycle
 - Other or Unknown
- **Intersections**
 - Not at Intersection
 - At Intersection
 - At or Near Railroad Crossing
- **Severity**
 - Fatal
 - Injury
 - Property
- **Light condition**
 - Daylight
 - Night, Dawn or Dusk
 - Other or Unknown
- **Roadway surface condition**
 - Dry
 - Wet
 - Snowy or Ice
 - Other or Unknown

Clusters

The Cluster Finder crash database analysis tool was employed on every route for which a crash summary identified 15 or more total crashes. The cluster criteria were defined as 15 or more crashes occurring within a 1/10 mile segment, during the three-year analysis period (2002-2004). For consistency, this criteria was used on every route regardless of functional class, number of lanes, or traffic volume. The low threshold of 15 crashes was necessary in obtaining a useful set of data for the lower volume roads. On higher volume roads concentrations of 15 crashes are less significant comparatively speaking because increased traffic volume often correlates positively with increased crash volume.

The Cluster Finder tool employs an algorithm that searches database records by route for concentrations of crashes that meet user specified criteria. The user input fields are:

- State Route Identifier (SRI)
- Route Name
- County Name
- Starting Year
- Ending Year
- Collision Type
- Threshold Limit
- Cluster Length

4. ANALYSIS AND RESULTS

The purpose of this analysis was to create a baseline of crash data for every route in the New Jersey portion of the DVRPC region, and to create a hierarchy of crash cluster locations on those routes. The resulting summary tables are organized by county for 600 and 700 routes (intra-county) and by route system for all other routes (inter-county), and present select data for each route sorted numerically by route number. These tables provide a snapshot of crash history for each route. The following text provides a regional perspective on crashes in DVRPC’s four New Jersey counties.

Route Summaries

Within DVRPC’s New Jersey counties there are thirty-eight (38) 500 series routes, three hundred thirty-eight (338) 600 routes, sixty-one (61) 700 routes, twenty-five (25) state routes, five (5) interstate routes, eight (8) U.S. routes and three (3) toll routes. Combined, these 478 routes account for 2,130 miles of roadway, and collectively experienced 90,655 crashes during 2002, 2003 and 2004 (see Table 1).

TABLE 1

Route Miles and Total Crashes by Route Type								
Crash Summary: 2002-2004								
Route System	Number of Routes	Length in Miles	Total Crashes 2002 -2004	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes
New Jersey State Routes	25	262	20759	69	6640	14050	159	119
Interstate Routes	5	84	9200	24	2227	6949	12	0
US Routes	8	201	16054	60	5201	10793	143	87
Toll Routes	3	89	5659	38	1343	4278	14	0
500 Series County Routes	38	466	14544	59	4753	9732	155	126
600 / 700 Series County Routes	399	1028	24439	64	8176	16199	300	264
TOTALS	478	2130	90655	314	28340	62001	783	596

Source: NJDOT, 2005

4.1 COUNTY ROUTE SUMMARIES - 600 and 700 SERIES, BY COUNTY

4.1.1 Burlington County

Summary

Burlington has one hundred 600 series county routes totaling 355 miles. Burlington has no 700 series routes (as of 2004). During the three-year analysis period there were 5,619 total crashes of which 17 were fatal, 1,822 were injury crashes and 3,780 were property damage only. Thirty-eight crashes involved pedestrians and 52 crashes involved bicyclists. The most predominant crash type was same direction rear-end topping the list on 40 of the 100 routes. Hit-fixed object and angle crashes were second and third most frequent types with 20 and 19 crashes respectively. Select data items for each 600 series county route are summarized in **TABLE 2**.

Highest Total Crashes – CR 607

Burlington County Route (CR) 607 had 659 total crashes, the highest number of crashes on a 600 series route during the analysis period. This route is the fourth longest 600 series route in the county at 11.27 miles. The predominant collision type was angle crashes accounting for 33 percent of the total. This route also experienced 5 bicycle crashes making it the second highest in this category. No fatalities, 217 injury and 442 property damage only crashes occurred. County Route 607 also showed the greatest number of crash clusters (16), double the number found on County Route 630 that had the next highest at 8.

CR 607, known predominantly as Church Street, has both two-lane and four-lane sections over its length. The route is four lanes along the 4.5 mile section between NJ 70 and NJ 38, and has a posted speed of 40 – 45 mph. The remaining two-lane sections are posted between 30 and 35 mph. Evesham, Mount Laurel, Moorestown and Cinnaminson Townships, and Palmyra Borough are served by this facility.

Highest Crashes per Mile – CR 616

Burlington County Route 616 is the longest 600 route in the county at 28.28 miles. This route is broken into three adjacent disconnected pieces in the NJ Straight Line Diagram because it intersects with higher facilities roads (NJ 73). The western most section of CR 616 had 119 total crashes yielding 68 crashes per mile over its 1.75 mile total length. No fatalities, 39 injury, and 79 property damage only crashes were recorded. The predominant collision type was rear-end crashes accounting for 58 percent of the total. Known locally as Church Road, this two-lane, 40 – 45 mph posted speed section connects NJ 41 with NJ 73 southbound.

TABLE 2

**Burlington County 600 Series Routes
Crash Summary: 2002-2004**

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Total Length	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant	Number of Crashes Prdmt Type
												Crash Type	
BURLINGTON COUNTY 600	0	1.07	1.07	36	34	1	0	9	27	1	0	Same Direction - rear-end	15
BURLINGTON COUNTY 601	0	0.16	0.16	7	7	0	0	2	5	0	1	Angle	4
BURLINGTON COUNTY 602	0	1.34	1.34	8	6	0	0	3	5	0	1	Same Direction - rear-end	2
BURLINGTON COUNTY 603	0	4.48	4.48	65	15	0	0	21	44	1	0	Same Direction - rear-end	28
BURLINGTON COUNTY 603	4.68	10.21	5.53	110	20	2	2	35	73	1	1	Angle	41
BURLINGTON COUNTY 604	0	1.49	1.49	30	20	1	0	10	20	0	1	Angle	13
BURLINGTON COUNTY 605	0	1.28	1.28	17	13	0	0	4	13	0	0	Same Direction - rear-end	9
BURLINGTON COUNTY 606	0	1.52	1.52	31	20	0	0	13	18	0	0	Same Direction - rear-end	11
BURLINGTON COUNTY 607	0	11.27	11.27	659	58	16	0	217	442	2	5	Angle	222
BURLINGTON COUNTY 608	0	3.58	3.58	101	28	1	0	29	72	1	2	Angle	32
BURLINGTON COUNTY 609	0	0.56	0.56	6	6	0	0	1	5	0	0	Angle	3
BURLINGTON COUNTY 610	0	0.75	0.75	9	9	0	0	6	3	0	0	Same Direction - rear-end	2
BURLINGTON COUNTY 611	0	1.31	1.31	46	35	2	0	17	29	1	0	Angle	14
BURLINGTON COUNTY 612	0	12	12.00	191	16	2	1	75	115	1	2	Same Direction - rear-end	52
BURLINGTON COUNTY 613	0	5.43	5.43	96	18	1	0	31	65	0	0	Same Direction - rear-end	39
BURLINGTON COUNTY 614	0	3.63	3.63	70	21	2	0	21	49	0	0	Angle	26
BURLINGTON COUNTY 615	0	2.92	2.92	34	12	0	0	10	24	0	0	Same Direction - rear-end	18
BURLINGTON COUNTY 616	0	1.75	1.75	118	67	4	0	39	79	0	2	Same Direction - rear-end	69
BURLINGTON COUNTY 616	1.84	23.48	21.64	342	16	6	4	94	244	3	1	Same Direction - rear-end	109
BURLINGTON COUNTY 616	23.77	28.38	4.61	50	11	1	0	17	33	1	0	Angle	13
BURLINGTON COUNTY 617	0	0.41	0.41	5	5	0	0	2	3	1	0	Same Direction - rear-end	1
BURLINGTON COUNTY 618	0	4.01	4.01	94	23	1	0	33	61	1	0	Same Direction - rear-end	35
BURLINGTON COUNTY 619	0	1.43	1.43	5	3	0	0	0	5	0	0	Head On	2
BURLINGTON COUNTY 620	0	8.85	8.85	363	41	7	0	104	259	1	3	Same Direction - rear-end	128
BURLINGTON COUNTY 620	9	13.25	4.25	12	3	0	0	1	11	0	0	Fixed Object	5
BURLINGTON COUNTY 621	0	2.51	2.51	22	9	1	0	13	9	0	1	Angle	12
BURLINGTON COUNTY 622	0	2.82	2.82	9	3	0	1	4	4	0	1	Other or Unknown	3
BURLINGTON COUNTY 623	0	3.44	3.44	103	30	2	0	30	73	0	2	Same Direction - rear-end	43
BURLINGTON COUNTY 624	0	2.49	2.49	23	8	0	0	5	18	0	0	Angle	9
BURLINGTON COUNTY 625	0	1.37	1.37	6	4	0	0	1	5	0	0	Angle	3
BURLINGTON COUNTY 626	0	9.89	9.89	274	28	6	1	76	197	4	3	Same Direction - rear-end	104
BURLINGTON COUNTY 628	0	7.68	7.68	63	8	1	0	24	39	0	1	Angle	17
BURLINGTON COUNTY 629	0	1	1.00	33	33	0	0	15	18	1	0	Angle	10
BURLINGTON COUNTY 630	0	18.02	18.02	466	26	8	2	148	316	3	6	Same Direction - rear-end	135
BURLINGTON COUNTY 632	0	0.63	0.63	13	13	0	0	2	11	0	1	Same Direction - rear-end	3
BURLINGTON COUNTY 633	0	3.53	3.53	110	31	2	0	36	74	0	4	Same Direction - rear-end	43
BURLINGTON COUNTY 634	0	3.3	3.30	173	52	5	0	58	115	3	1	Same Direction - rear-end	93
BURLINGTON COUNTY 635	0	7.37	7.37	163	22	2	1	68	94	0	3	Same Direction - rear-end	70
BURLINGTON COUNTY 636	0	3.7	3.70	67	18	0	0	26	41	1	2	Same Direction - rear-end	14
BURLINGTON COUNTY 636	4.29	5.27	0.98	6	6	0	0	2	4	0	0	Same Direction - rear-end	3

SOURCE: NJDOT, 2005

TABLE 2 (continued)

Burlington County 600 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Total Length	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes Prdmnt Type
BURLINGTON COUNTY 636	6.03	9.8	3.77	21	6	0	0	9	12	0	0	Fixed Object	7
BURLINGTON COUNTY 637	0	0.59	0.59	30	30	0	0	7	23	0	0	Same Direction - rear-end	13
BURLINGTON COUNTY 637	0.96	1.87	0.91	7	7	0	0	2	5	0	0	Same Direction - rear-end	3
BURLINGTON COUNTY 638	0	1.53	1.53	11	7	0	0	2	9	0	0	Angle	3
BURLINGTON COUNTY 639	0	1.53	1.53	19	12	0	0	4	15	0	0	Fixed Object	15
BURLINGTON COUNTY 640	0	2.16	2.16	8	4	0	0	1	7	0	0	Animal	4
BURLINGTON COUNTY 641	0	3.73	3.73	4	1	0	0	2	2	0	0	Same Direction - Sideswipe	1
BURLINGTON COUNTY 641	3.87	9.17	5.30	24	5	0	0	5	19	0	0	Fixed Object	7
BURLINGTON COUNTY 642	0	6.45	6.45	16	2	0	0	3	13	0	0	Fixed Object	6
BURLINGTON COUNTY 643	0	0.56	0.56	3	3	0	0	2	1	0	0	#N/A	0
BURLINGTON COUNTY 644	0	6.79	6.79	93	14	0	0	39	54	1	0	Fixed Object	30
BURLINGTON COUNTY 645	0	5.72	5.72	45	8	0	1	24	20	1	1	Fixed Object	17
BURLINGTON COUNTY 646	0	4.49	4.49	36	8	0	2	16	18	0	0	Other or Unknown	17
BURLINGTON COUNTY 646	4.67	5.44	0.77	9	9	0	0	4	5	0	0	Fixed Object	3
BURLINGTON COUNTY 648	0	8.33	8.33	20	2	0	0	5	15	0	0	Fixed Object	5
BURLINGTON COUNTY 651	0	0.5	0.50	0	0	0	0	0	0	0	0	#N/A	0
BURLINGTON COUNTY 652	0	1.79	1.79	5	3	0	0	2	3	0	0	Fixed Object	2
BURLINGTON COUNTY 653	0	1.62	1.62	7	4	0	0	2	5	0	0	Same Direction - rear-end	2
BURLINGTON COUNTY 654	0	3.23	3.23	13	4	0	0	3	10	0	0	Fixed Object	4
BURLINGTON COUNTY 655	0	0.47	0.47	0	0	0	0	0	0	0	0	#N/A	0
BURLINGTON COUNTY 656	0	8.6	8.60	151	18	0	0	60	91	3	1	Same Direction - rear-end	35
BURLINGTON COUNTY 657	0	0.62	0.62	8	8	0	0	0	8	0	0	Same Direction - Sideswipe	2
BURLINGTON COUNTY 658	0	0.73	0.73	5	5	0	0	3	2	0	0	Same Direction - rear-end	2
BURLINGTON COUNTY 659	0	2.2	2.20	35	16	0	0	12	23	1	2	Fixed Object	12
BURLINGTON COUNTY 660	0	8.29	8.29	45	5	0	0	11	34	0	0	Fixed Object	10
BURLINGTON COUNTY 660	8.53	13.57	5.04	11	2	0	0	1	10	0	0	Other or Unknown	4
BURLINGTON COUNTY 661	0	1.38	1.38	8	6	0	0	6	2	0	0	Fixed Object	4
BURLINGTON COUNTY 662	0	3.3	3.30	10	3	0	0	4	6	0	0	Same Direction - rear-end	4
BURLINGTON COUNTY 663	0	2.76	2.76	7	3	0	0	2	5	0	0	Fixed Object	4
BURLINGTON COUNTY 664	0	2.91	2.91	9	3	0	0	2	7	0	0	Other or Unknown	4
BURLINGTON COUNTY 665	0	2.02	2.02	0	0	0	0	0	0	0	0	#N/A	0
BURLINGTON COUNTY 665	2.36	4.74	2.38	10	4	0	0	3	7	0	0	Other or Unknown	4
BURLINGTON COUNTY 666	0	2.92	2.92	11	4	0	0	1	10	0	0	Fixed Object	6
BURLINGTON COUNTY 667	0	6.19	6.19	53	9	0	0	18	35	3	1	Same Direction - rear-end	16
BURLINGTON COUNTY 668	0	3.81	3.81	57	15	1	0	19	38	1	0	Same Direction - rear-end	33
BURLINGTON COUNTY 669	0	9.03	9.03	33	4	3	0	13	20	0	0	Angle	12
BURLINGTON COUNTY 670	0	9.08	9.08	122	13	1	1	31	90	0	0	Same Direction - rear-end	50
BURLINGTON COUNTY 670	9.19	12.03	2.84	27	10	1	0	5	22	0	0	Fixed Object	6
BURLINGTON COUNTY 672	0	2.1	2.10	0	0	0	0	0	0	0	0	#N/A	0
BURLINGTON COUNTY 673	0	0.42	0.42	25	25	1	0	8	17	0	0	Same Direction - rear-end	10

SOURCE: NJDOT, 2005

TABLE 2 (continued)

Burlington County 600 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Total Length	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes Prdmnt Type
BURLINGTON COUNTY 673	0.63	2.75	2.12	112	53	1	0	31	81	1	0	Same Direction - rear-end	29
BURLINGTON COUNTY 674	0	0.16	0.16	47	47	0	0	17	30	0	1	Same Direction - rear-end	22
BURLINGTON COUNTY 674	0.32	6.64	6.32	109	17	1	0	46	63	0	0	Angle	34
BURLINGTON COUNTY 677	0	1.47	1.47	8	5	0	0	0	8	0	0	Fixed Object	4
BURLINGTON COUNTY 678	0	3.23	3.23	7	2	0	0	1	6	0	0	Angle	4
BURLINGTON COUNTY 679	0	8.42	8.42	16	2	0	0	6	10	0	0	Animal	5
BURLINGTON COUNTY 680	0	2.51	2.51	28	11	0	0	6	22	0	0	Angle	7
BURLINGTON COUNTY 681	0	0.91	0.91	2	2	0	0	0	2	0	0	Same Direction - rear-end	1
BURLINGTON COUNTY 681	1.1	1.58	0.48	14	14	0	0	1	13	0	0	Parked Vehicle	5
BURLINGTON COUNTY 682	0	0.5	0.50	2	2	0	0	0	2	0	0	Fixed Object	2
BURLINGTON COUNTY 683	0	0.68	0.68	8	8	0	0	5	3	0	0	Same Direction - rear-end	5
BURLINGTON COUNTY 684	0	2.67	2.67	25	9	0	0	8	17	0	0	Other or Unknown	8
BURLINGTON COUNTY 685	0	0.21	0.21	0	0	0	0	0	0	0	0	#N/A	0
BURLINGTON COUNTY 686	0	7.9	7.90	146	18	1	0	55	91	0	1	Same Direction - rear-end	73
BURLINGTON COUNTY 687	0	1.61	1.61	9	6	0	0	2	7	0	0	Same Direction - rear-end	3
BURLINGTON COUNTY 687	2.04	2.89	0.85	0	0	0	0	0	0	0	0	#N/A	0
BURLINGTON COUNTY 688	0	0.23	0.23	1	1	0	0	0	1	0	0	Fixed Object	1
BURLINGTON COUNTY 690	0	0.79	0.79	4	4	0	0	0	4	0	0	Same Direction - Sideswipe	1
BURLINGTON COUNTY 691	0	2.81	2.81	47	17	0	1	11	35	0	1	Same Direction - rear-end	14
BURLINGTON COUNTY 693	0	0.74	0.74	0	0	0	0	0	0	0	0	#N/A	0

SOURCE: NJDOT, 2005

4.1.2 Camden County

Summary

Camden County has one hundred seven (107) 600 series county routes and fifty three (53) 700 series routes totaling 284 miles. During the three-year analysis period there were 9,721 total crashes of which 20 were fatal, 3,446 were injury crashes and 6,255 were property damage only. One hundred sixty-seven (167) crashes involved pedestrians and 143 involved bicyclists. The most predominant crash type was same direction rear-end topping the list on 59 of the 160 routes. Angle and hit-fixed object crashes were the second and third most frequent crash types at 39 and 22 respectively. No crash data was available for twenty-three routes, all but one of which was less than one mile long. Eighty-eight of the 166 county routes had fewer than 15 total crashes—the crash cluster threshold value. Select data items for each of Camden’s 600 and 700 county routes are summarized in **TABLE 3**.

Highest Total Crashes – CR 673

Camden County Route 673 had 1,043 total crashes, the highest number of crashes on a 600 series route during the analysis period. This route is also the longest of the 600 series routes in the county at 11.38 miles. The predominant collision type was rear-end crashes accounting for 46 percent of the total. This route was the location of 7 bicycle and 2 pedestrian crashes. One fatal, 359

injury, and 683 property damage only crashes were recorded. County Route 673 also had the greatest number of crash clusters (27), nearly double the number found on County Routes 644 and 601 which had the next highest totals at 15 each.

CR 673 is comprised of two, three and four-lane sections over its length and has a posted speed of 25 – 45 mph. Traversing five municipalities between Gloucester Township and Cherry Hill, this route is known by several names each corresponding to a different municipality. CR 673 is a heavily traveled commuter route that experiences traffic volumes as high as 25,000 at some locations.

Highest Crashes per Mile – CR 605

Camden County Route 605 had the highest number of crashes per mile at 203. Total crashes for the 1.43 mile long route were 289 during the 2002 – 2004 analysis period. Known locally as Mount Ephraim Avenue this route serves a dense, urbanized, residential section of Camden City between Ferry Avenue and Haddon Avenue. Although the predominant collision type was rear-end crashes accounting for 22 percent, angle crashes were just as problematic at 21 percent of the total. No fatalities, 101 injury and 188 property damage only crashes were recorded. CR 605 was also the site of 13 pedestrian and 5 bicycle crashes. This route has eight signalized intersections and nearly three times as many intersecting streets. Mount Ephraim Avenue has both a four-lane and two-lane section, and a consistent speed limit of 35 mph throughout its length.

TABLE 3

Camden County 600 & 700 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes Prdmt Type
CAMDEN COUNTY 600	0	0.19	0.19	6	6	0	0	2	4	0	1	Same Direction - rear-end	2
CAMDEN COUNTY 601	0	3.13	3.13	489	156	15	0	173	316	22	9	Angle	126
CAMDEN COUNTY 603	0	2.41	2.41	89	37	2	0	42	47	2	3	Angle	33
CAMDEN COUNTY 604	0	0.75	0.75	38	38	1	0	18	20	5	0	Angle	12
CAMDEN COUNTY 605	0	1.43	1.43	289	203	8	0	101	188	13	5	Same Direction - rear-end	65
CAMDEN COUNTY 606	0	0.29	0.29	1	1	0	0	0	1	0	0	Same Direction - rear-end	1
CAMDEN COUNTY 606 A	0	0.19	0.19	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 607	0	2.37	2.37	209	88	6	1	71	137	4	9	Same Direction - rear-end	49
CAMDEN COUNTY 608	0	1.23	1.23	242	197	7	1	92	149	7	6	Same Direction - rear-end	97
CAMDEN COUNTY 609	0	1.26	1.26	239	190	7	0	86	153	7	9	Angle	79
CAMDEN COUNTY 610	0	2.94	2.94	358	122	12	1	117	240	19	8	Angle	92
CAMDEN COUNTY 611	0	1.36	1.36	68	50	1	0	26	42	3	2	Angle	20
CAMDEN COUNTY 612 I	0	0.87	0.87	7	7	0	0	2	5	0	0	Fixed Object	4
CAMDEN COUNTY 612 II	0	0.53	0.53	16	16	0	0	6	10	0	0	Same Direction - rear-end	8
CAMDEN COUNTY 612 III	0	2.41	2.41	86	36	0	0	21	65	0	3	Angle	26
CAMDEN COUNTY 612 Spur	0	0.13	0.13	2	2	0	0	0	2	0	0	Parked Vehicle	2
CAMDEN COUNTY 613	0	0.38	0.38	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 613	0.41	1.39	0.98	14	14	0	0	5	9	0	0	Angle	5
CAMDEN COUNTY 614	0	1.33	1.33	7	5	0	0	0	7	0	0	Parked Vehicle	3
CAMDEN COUNTY 615	0	2.52	2.52	60	24	0	0	18	42	1	0	Angle	15
CAMDEN COUNTY 616	0	5.23	5.23	335	63	6	0	120	215	2	2	Same Direction - rear-end	127
CAMDEN COUNTY 617	0	0.22	0.22	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 619	0	0.52	0.52	7	7	0	0	2	5	0	1	Angle	3
CAMDEN COUNTY 620	0	0.54	0.54	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 621	0	2.04	2.04	50	25	1	0	17	33	3	1	Angle	17
CAMDEN COUNTY 622	0	0.85	0.85	27	27	0	0	7	20	0	0	Angle	15
CAMDEN COUNTY 623	0	1.33	1.33	34	26	0	0	16	18	0	0	Same Direction - rear-end	12
CAMDEN COUNTY 624	0	0.6	0.6	3	3	0	0	1	2	0	0	Same Direction - rear-end	1
CAMDEN COUNTY 625	0	0.36	0.36	2	2	0	0	0	2	0	0	Same Direction - Sideswipe	1
CAMDEN COUNTY 626	0	3.43	3.43	201	59	5	0	81	120	3	4	Same Direction - rear-end	70
CAMDEN COUNTY 627	0	2.12	2.12	70	33	0	0	28	42	1	2	Same Direction - rear-end	29
CAMDEN COUNTY 628	0	2.88	2.88	111	53	2	0	40	71	2	2	Same Direction - rear-end	28
CAMDEN COUNTY 628 II	0	2.06	2.06	39	16	1	1	12	26	0	0	Same Direction - rear-end	20
CAMDEN COUNTY 629	0	2.38	2.38	28	12	0	0	8	20	0	0	Fixed Object	10
CAMDEN COUNTY 630	0	2.95	2.95	159	54	3	0	53	106	7	5	Angle	43
CAMDEN COUNTY 631	0	0.78	0.78	13	13	0	0	6	7	0	0	Parked Vehicle	4
CAMDEN COUNTY 632	0	0.76	0.76	12	12	0	0	4	8	1	1	Angle	4
CAMDEN COUNTY 633	0	0.21	0.21	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 634	0	2.14	2.14	132	62	2	0	31	101	4	2	Same Direction - rear-end	43
CAMDEN COUNTY 635	0	2.78	2.78	56	20	1	0	21	35	0	2	Same Direction - rear-end	19

SOURCE: NJDOT, 2005

TABLE 3 (continued)

Camden County 600 & 700 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes Prdmnt Type
CAMDEN COUNTY 636	0	2.83	2.83	209	74	4	0	90	119	1	1	Same Direction - rear-end	122
CAMDEN COUNTY 636	3.22	3.43	0.21	12	12	0	0	4	8	0	0	Angle	5
CAMDEN COUNTY 637	0	0.54	0.54	9	9	0	0	3	6	0	0	Parked Vehicle	4
CAMDEN COUNTY 638	0	0.55	0.55	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 639	0	0.3	0.3	2	2	0	0	2	0	0	0	Angle	2
CAMDEN COUNTY 640	0	0.67	0.67	4	4	0	0	0	4	0	0	Parked Vehicle	2
CAMDEN COUNTY 641	0	2.38	2.38	23	10	0	0	11	12	1	2	Angle	7
CAMDEN COUNTY 642	0	0.66	0.66	3	3	0	0	1	2	0	0	Same Direction - rear-end	1
CAMDEN COUNTY 643	0	1.56	1.56	43	28	0	0	15	28	1	0	Same Direction - rear-end	15
CAMDEN COUNTY 644	0	6.48	6.48	540	93	15	1	185	354	2	4	Same Direction - rear-end	332
CAMDEN COUNTY 645	0	0.4	0.4	4	4	0	0	1	3	0	0	Angle	3
CAMDEN COUNTY 646	0	1.13	1.13	3	3	0	0	1	2	1	0	Fixed Object	2
CAMDEN COUNTY 647	0	1.12	1.12	6	5	0	0	3	3	0	0	Angle	4
CAMDEN COUNTY 648	0	0.88	0.88	9	9	0	0	5	4	1	0	Angle	3
CAMDEN COUNTY 649	0	0.38	0.38	6	6	0	0	2	4	0	0	Same Direction - rear-end	3
CAMDEN COUNTY 650	0	1.15	1.15	9	8	0	0	1	8	0	0	Parked Vehicle	5
CAMDEN COUNTY 651	0	0.15	0.15	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 652	0	0.15	0.15	2	2	0	0	1	1	0	0	Same Direction - rear-end	1
CAMDEN COUNTY 653	0	0.87	0.87	8	8	0	0	2	6	0	0	Angle	4
CAMDEN COUNTY 653	0.91	2.16	1.25	13	10	0	0	6	7	0	1	Angle	5
CAMDEN COUNTY 654	0	1.15	1.15	13	11	0	0	3	10	0	0	Angle	8
CAMDEN COUNTY 655	0	0.13	0.13	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 656	0	1.47	1.47	50	34	1	1	16	33	1	0	Angle	31
CAMDEN COUNTY 657	0	0.36	0.36	0	0	0	0	0	0	0	0	NA	0
CAMDEN COUNTY 658	0	0.87	0.87	19	19	0	0	5	14	0	0	Angle	8
CAMDEN COUNTY 659	0	4.3	4.3	177	41	2	0	59	118	1	3	Angle	49
CAMDEN COUNTY 660	0	0.67	0.67	2	2	0	0	0	2	0	0	Angle	2
CAMDEN COUNTY 661	0	1.08	1.08	6	6	0	0	1	5	0	1	Fixed Object	3
CAMDEN COUNTY 661 SPUR	0	0.09	0.09	1	1	0	0	1	0	0	0	Other or Unknown	1
CAMDEN COUNTY 662	0	0.85	0.85	26	26	0	0	10	16	1	2	Angle	7
CAMDEN COUNTY 663	0	0.24	0.24	33	33	1	0	5	28	0	0	Parked Vehicle	19
CAMDEN COUNTY 664	0	0.21	0.21	1	1	0	0	0	1	0	0	Parked Vehicle	1
CAMDEN COUNTY 665	0	0.48	0.48	2	2	0	0	0	2	0	0	Parked Vehicle	2
CAMDEN COUNTY 666	0	0.63	0.63	23	23	0	0	5	18	0	1	Same Direction - rear-end	7
CAMDEN COUNTY 667	0	1.56	1.56	23	15	1	0	11	12	0	0	left-turn	7
CAMDEN COUNTY 668	0	1.14	1.14	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 669	0	6.28	6.28	157	25	3	2	48	107	4	5	Same Direction - rear-end	67
CAMDEN COUNTY 670	0	3.16	3.16	200	63	3	0	68	132	5	1	Same Direction - rear-end	60
CAMDEN COUNTY 671	0	6.18	6.18	388	63	8	1	143	244	2	4	Same Direction - rear-end	191
CAMDEN COUNTY 672	0	1.48	1.48	28	19	0	0	7	21	0	0	Same Direction - rear-end	7

SOURCE: NJDOT, 2005

TABLE 3 (continued)

Camden County 600 & 700 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes Prdmt Type
CAMDEN COUNTY 673	0	11.38	11.38	1043	92	27	1	359	683	7	2	Same Direction - rear-end	484
CAMDEN COUNTY 674	0	1.07	1.07	80	75	3	0	28	52	0	0	Same Direction - rear-end	47
CAMDEN COUNTY 675	0	8.11	8.11	150	19	1	0	62	88	2	0	Same Direction - rear-end	72
CAMDEN COUNTY 676	0	1.05	1.05	35	33	0	0	12	23	0	2	Fixed Object	12
CAMDEN COUNTY 677	0	2.76	2.76	137	50	3	1	39	97	1	0	Same Direction - rear-end	54
CAMDEN COUNTY 678	0	2.13	2.13	80	38	0	0	28	52	1	1	Same Direction - rear-end	34
CAMDEN COUNTY 679	0	0.79	0.79	3	3	0	0	1	2	0	0	Angle	2
CAMDEN COUNTY 680	0	2.53	2.53	2	1	0	0	1	1	0	0	Fixed Object	2
CAMDEN COUNTY 681	0	2.59	2.59	74	29	1	0	25	49	0	0	Same Direction - rear-end	24
CAMDEN COUNTY 682	0	0.84	0.84	27	27	0	0	5	22	0	1	Same Direction - rear-end	11
CAMDEN COUNTY 683	0	4.49	4.49	148	33	2	0	54	94	1	4	Same Direction - rear-end	60
CAMDEN COUNTY 684	0	1.93	1.93	5	3	0	0	2	3	0	0	Same Direction - rear-end	1
CAMDEN COUNTY 685	0	2.58	2.58	28	11	0	0	8	20	0	0	Fixed Object	16
CAMDEN COUNTY 686	0	2.88	2.88	264	92	7	1	94	169	5	9	Angle	88
CAMDEN COUNTY 687	0	4.98	4.98	133	27	0	1	48	84	3	3	Same Direction - rear-end	37
CAMDEN COUNTY 688	0	4.81	4.81	129	27	3	0	48	81	1	0	Same Direction - rear-end	38
CAMDEN COUNTY 689	0	6.61	6.61	519	79	11	0	206	313	2	3	Same Direction - rear-end	208
CAMDEN COUNTY 690	0	1.44	1.44	13	9	0	0	1	12	0	0	Fixed Object	5
CAMDEN COUNTY 691	0	3.5	3.5	67	19	0	0	27	40	1	0	Same Direction - rear-end	26
CAMDEN COUNTY 692	0	1.66	1.66	20	12	0	0	11	9	0	0	Angle	9
CAMDEN COUNTY 693	0	1.03	1.03	6	6	0	0	2	4	0	0	Fixed Object	3
CAMDEN COUNTY 694	0	1.39	1.39	6	4	0	0	0	6	0	0	Fixed Object	3
CAMDEN COUNTY 695	0	0.76	0.76	10	10	0	0	3	7	0	0	Same Direction - rear-end	2
CAMDEN COUNTY 696	0	0.97	0.97	27	27	0	0	7	20	0	1	Fixed Object	12
CAMDEN COUNTY 697	0	0.38	0.38	2	2	0	0	0	2	0	0	Angle	1
CAMDEN COUNTY 698	0	0.88	0.88	2	2	0	0	1	1	0	0	Fixed Object	2
CAMDEN COUNTY 699	0	2.11	2.11	6	3	0	0	2	4	0	0	Fixed Object	2
CAMDEN COUNTY 700	0	1.39	1.39	9	6	0	0	5	4	1	0	Angle	4
CAMDEN COUNTY 701	0	0.75	0.75	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 702	0	1.78	1.78	2	16	0	0	10	19	3	1	Angle	14
CAMDEN COUNTY 702	1.81	2.5	0.69	8	8	0	0	5	3	0	1	Angle	2
CAMDEN COUNTY 702	2.51	3.67	1.16	1	1	0	0	0	1	0	0	Animal	1
CAMDEN COUNTY 702	3.84	4.5	0.66	29	29	0	0	1	1	0	0	Same Direction - rear-end	1
CAMDEN COUNTY 703	0	2.6	2.6	69	35	0	1	24	44	0	1	Same Direction - rear-end	34
CAMDEN COUNTY 704	0	4.79	4.79	76	24	2	0	28	48	1	1	Fixed Object	18
CAMDEN COUNTY 705	0	3.15	3.15	123	28	5	2	51	70	2	1	Same Direction - rear-end	46
CAMDEN COUNTY 705	3.34	7.67	4.33	147	48	4	1	46	100	0	0	Same Direction - rear-end	70
CAMDEN COUNTY 706	0	9.31	9.31	210	33	5	0	78	132	2	3	Same Direction - rear-end	82
CAMDEN COUNTY 706	9.45	11.47	2.02	34	17	0	0	14	20	0	0	Same Direction - rear-end	19
CAMDEN COUNTY 707	0	0.76	0.76	3	3	0	0	1	2	0	0	Same Direction - rear-end	2

SOURCE: NJDOT, 2005

TABLE 3 (continued)

Camden County 600 & 700 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes Prdmt Type
CAMDEN COUNTY 708 I	0	0.17	0.17	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 708 II	0	0.69	0.69	10	10	0	0	6	4	1	1	Same Direction - rear-end	5
CAMDEN COUNTY 709	0	0.63	0.63	2	2	0	0	1	1	0	0	Same Direction - rear-end	1
CAMDEN COUNTY 710	0	3.36	3.36	25	7	0	0	13	12	0	0	Same Direction - rear-end	7
CAMDEN COUNTY 712	0	2.05	2.05	13	6	0	0	2	11	0	0	Same Direction - rear-end	4
CAMDEN COUNTY 713	0	3.79	3.79	11	3	0	0	3	8	0	0	Fixed Object	7
CAMDEN COUNTY 715	0	1.09	1.09	1	1	0	0	1	0	0	0	Angle	1
CAMDEN COUNTY 716	0	4.69	4.69	18	4	0	0	9	9	1	0	Fixed Object	6
CAMDEN COUNTY 718	0	1.66	1.66	1	1	0	0	0	1	0	0	Fixed Object	1
CAMDEN COUNTY 720	0	2.42	2.42	25	10	0	1	10	14	0	0	Fixed Object	12
CAMDEN COUNTY 720	2.84	6.68	3.84	20	5	0	0	11	9	0	0	Same Direction - rear-end	7
CAMDEN COUNTY 720	6.79	8.94	2.15	8	4	0	2	3	3	0	0	Same Direction - rear-end	3
CAMDEN COUNTY 722	0	2.88	2.88	14	5	0	0	9	5	0	0	Fixed Object	9
CAMDEN COUNTY 723	0	4.88	4.88	49	10	1	0	16	33	0	0	Fixed Object	29
CAMDEN COUNTY 724	0	0.98	0.98	8	8	0	0	4	4	0	0	Fixed Object	4
CAMDEN COUNTY 726	0	0.8	0.8	2	2	0	0	0	2	0	0	Fixed Object	1
CAMDEN COUNTY 727	0	6.85	6.85	44	9	0	0	16	28	2	2	Same Direction - rear-end	13
CAMDEN COUNTY 728	0	0.62	0.62	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 729	0	1.84	1.84	11	6	0	0	5	6	0	0	left-turn	0
CAMDEN COUNTY 730	0	0.81	0.81	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 732	0	0.59	0.59	1	1	0	0	1	0	0	1	Pedalcycle	1
CAMDEN COUNTY 733	0	0.5	0.5	2	2	0	0	0	2	1	0	Angle	1
CAMDEN COUNTY 736	0	0.55	0.55	6	6	0	0	2	4	0	0	Same Direction - rear-end	3
CAMDEN COUNTY 737	0	0.16	0.16	7	7	0	0	1	6	0	1	Same Direction - rear-end	3
CAMDEN COUNTY 739	0	0.09	0.09	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 740	0	0.32	0.32	22	22	0	0	3	19	2	1	Parked Vehicle	7
CAMDEN COUNTY 741	0	0.2	0.2	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 742	0	0.09	0.09	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 743	0	0.34	0.34	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 744	0	0.89	0.89	6	6	0	0	2	4	0	1	Angle	4
CAMDEN COUNTY 745	0	0.05	0.05	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 747	0	0.7	0.7	1	1	0	0	0	1	0	0	Other or Unknown	1
CAMDEN COUNTY 750	0	0.31	0.31	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 753	0	2.37	2.37	37	27	1	0	13	24	0	0	Angle	10
CAMDEN COUNTY 755	0	0.28	0.28	2	2	0	0	0	2	0	0	Same Direction - rear-end	1
CAMDEN COUNTY 756	0	0.08	0.08	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 757 I	0	0.15	0.15	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 757 II	0	0.36	0.36	3	3	0	0	1	2	0	0	Same Direction - rear-end	3
CAMDEN COUNTY 758	0	0.45	0.45	0	0	0	0	0	0	0	0	#N/A	0
CAMDEN COUNTY 759	0	3.84	3.84	92	36	3	0	35	57	0	0	Same Direction - rear-end	41

SOURCE: NJDOT, 2005

4.1.3 Gloucester County

Summary

Gloucester County has eighty-four (84) 600 series county routes and eight (8) 700 series routes. Combined, the ninety-two routes total 303 miles. During the three-year analysis period there were 4,475 total crashes of which 21 were fatal, 1,601 were injury crashes, and 2,853 were property damage only. Twenty-three (23) crashes involved pedestrians and 28 involved bicyclists. The most predominant crash type was hit-fixed object crashes topping the list on 35 of the 92 routes. The second and third most frequent crash types were same direction rear-end and angle crashes 27 and 20 respectively. No crash data was available for eight of the ninety-two routes, only one of which was over one mile long. Forty-two (42) of the 92 county routes had fewer than 15 total crashes—the crash cluster threshold value. These and other select data for each of Gloucester’s 600 and 700 county routes are summarized in **TABLE 4**.

Highest Total Crashes – CR 654

Gloucester County’s route (CR) 654 had 450 total crashes, the highest number of crashes on a 600 series route during the analysis period. This route ranks 7th in length among the county routes at eight miles long. The predominant collision type was rear-end crashes accounting for 46 percent of the total and over twice that of angle crashes, the next highest collision type at 19 percent. This route was the location of 2 bicycle crashes and 1 pedestrian crash. No fatalities, 169 injury and 281 property damage only crashes were recorded. County Route 654 also had the greatest number of crash clusters at 11.

CR 654 is a predominantly two-lane roadway and has a posted speed of 35 – 45 mph. Traversing Monroe and Washington Townships, this route is known by several names all of which include Cross Keys Road in some fashion (i.e.: Hurffville-Cross Keys Road). The New Jersey Straight Line Diagram for CR 654 contains one traffic count of 8,000 AADT recorded in 2003.

Highest Crashes per Mile – CR 630

Gloucester County Route 630 had the highest number of crashes per mile at 91. Total crashes for the 4.1 mile long route were 375 during the 2002 – 2004 analysis period. Known locally as Egg Harbor Road this route intersects several county routes and connects to NJ 41 and NJ 47 at the five points intersection in Washington Township. CR 630 varies between two and four lanes with a consistent posted speed limit of 45 mph. The predominant collision type was rear-end crashes accounting for 33 percent, followed by angle crashes at 25 percent of the total. One fatal, 144 injury and 230 property damage only crashes were recorded. Egg Harbor Road was the location of 2 bicycle and 2 pedestrian crashes. This four mile long route has ten signalized intersections that lie within a setting of suburban density.

TABLE 4

Gloucester County 600 & 700 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002-2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes of Prdmnt Type
GLOUCESTER COUNTY 601	0	2.26	2.26	4	2	0	0	1	3	0	1	Fixed Object	2
GLOUCESTER COUNTY 602	0	5.7	5.7	13	2	0	0	3	10	0	0	Fixed Object	5
GLOUCESTER COUNTY 603	0	8.74	8.74	167	19	2	1	52	114	0	0	Angle	49
GLOUCESTER COUNTY 604	0	2.7	2.7	32	12	0	2	7	23	0	0	Angle	13
GLOUCESTER COUNTY 605	0	4	4	43	11	0	0	9	34	0	0	Angle	13
GLOUCESTER COUNTY 606	0	0.81	0.81	3	3	0	0	2	1	0	0	Fixed Object	2
GLOUCESTER COUNTY 607	0	9.39	9.39	38	4	0	0	15	23	0	0	Fixed Object	19
GLOUCESTER COUNTY 608	0	2	2	16	8	0	1	5	10	0	0	Fixed Object	9
GLOUCESTER COUNTY 609	0	7.91	7.91	53	7	0	1	17	35	0	0	Angle	23
GLOUCESTER COUNTY 610	0	8.19	8.19	99	12	0	0	36	63	2	0	Fixed Object	30
GLOUCESTER COUNTY 611	0	0.66	0.66	3	3	0	0	1	2	0	0	Fixed Object	3
GLOUCESTER COUNTY 612	5.73	8.38	2.65	65	25	0	0	31	34	0	1	Angle	21
GLOUCESTER COUNTY 612	0	1.59	1.59	14	9	0	0	5	9	0	0	Fixed Object	7
GLOUCESTER COUNTY 613	0	2.35	2.35	24	10	0	0	8	16	0	1	Fixed Object	9
GLOUCESTER COUNTY 614	0	2.25	2.25	3	1	0	0	0	3	0	0	Fixed Object	3
GLOUCESTER COUNTY 615	0	3.88	3.88	39	10	0	0	20	19	0	1	Fixed Object	18
GLOUCESTER COUNTY 616	0	0.66	0.66	0	0	0	0	0	0	0	0	#N/A	0
GLOUCESTER COUNTY 617	0	3.29	3.29	13	4	0	0	4	9	0	0	Fixed Object	4
GLOUCESTER COUNTY 618	0	3.74	3.74	33	9	0	0	14	19	0	0	Fixed Object	11
GLOUCESTER COUNTY 619	0	5.45	5.45	10	2	0	0	3	7	0	0	Angle	5
GLOUCESTER COUNTY 620	0	8.38	8.38	112	13	1	1	35	76	1	0	Angle	33
GLOUCESTER COUNTY 621	0	6.19	6.19	205	33	2	1	69	135	1	0	Same Direction - rear-end	85
GLOUCESTER COUNTY 622	0	1.27	1.27	2	2	0	0	1	1	0	0	Head On	2
GLOUCESTER COUNTY 623	0	5.89	5.89	14	2	0	1	4	9	0	0	Fixed Object	7
GLOUCESTER COUNTY 624	0	5.96	5.96	76	13	0	2	18	56	2	2	Angle	19
GLOUCESTER COUNTY 625	0	0.3	0.3	3	3	0	0	1	2	0	0	Fixed Object	2
GLOUCESTER COUNTY 626	0	2.19	2.19	14	6	0	0	4	10	0	1	Fixed Object	6
GLOUCESTER COUNTY 627	0	2.49	2.49	15	6	0	0	4	11	0	0	Same Direction - rear-end	3
GLOUCESTER COUNTY 628	0	0.64	0.64	3	3	0	0	0	3	0	0	Fixed Object	2
GLOUCESTER COUNTY 629	0	0.4	0.4	0	0	0	0	0	0	0	0	#N/A	0
GLOUCESTER COUNTY 630	0	4.1	4.1	375	91	8	1	144	230	2	2	Same Direction - rear-end	125
GLOUCESTER COUNTY 631	0	1.52	1.52	20	13	0	0	9	11	0	0	Same Direction - rear-end	7
GLOUCESTER COUNTY 632	0	2.69	2.69	41	15	0	0	17	24	1	1	Same Direction - rear-end	12
GLOUCESTER COUNTY 633	0	3.11	3.11	9	3	0	0	3	6	0	0	Same Direction - rear-end	4
GLOUCESTER COUNTY 634	0	3.22	3.22	42	13	0	0	13	29	0	1	Fixed Object	10
GLOUCESTER COUNTY 635	0	7.03	7.03	115	16	1	1	35	79	0	1	Angle	30
GLOUCESTER COUNTY 636	0	0.88	0.88	6	6	0	0	2	4	0	0	Angle	4
GLOUCESTER COUNTY 637	0	2.71	2.71	20	7	0	0	10	10	0	1	Angle	10
GLOUCESTER COUNTY 638	0	1.09	1.09	2	2	0	0	1	1	0	0	Fixed Object	2
GLOUCESTER COUNTY 639	1	5.14	4.14	140	34	3	0	49	91	1	0	Same Direction - rear-end	53
GLOUCESTER COUNTY 639	0	0.91	0.91	12	12	0	0	3	9	0	0	Angle	4
GLOUCESTER COUNTY 640	0	1.24	1.24	37	30	0	0	15	22	0	0	Same Direction - rear-end	13
GLOUCESTER COUNTY 641	0	6.33	6.33	56	9	0	0	15	41	0	1	Angle	20
GLOUCESTER COUNTY 642	0	2.8	2.8	41	15	0	0	13	28	0	2	Same Direction - rear-end	15
GLOUCESTER COUNTY 643	0	4.36	4.36	71	16	1	1	21	49	0	0	Same Direction - rear-end	27
GLOUCESTER COUNTY 644	0	4.29	4.29	103	24	0	0	36	67	3	2	Same Direction - rear-end	31
GLOUCESTER COUNTY 644	4.3	4.99	0.69	3	3	0	0	0	3	0	0	Same Direction - rear-end	1
GLOUCESTER COUNTY 645	0	1.07	1.07	4	4	0	0	0	4	0	0	Angle	2
GLOUCESTER COUNTY 646	0	0.73	0.73	15	15	0	0	7	8	0	0	Fixed Object	6
GLOUCESTER COUNTY 647	0	1.92	1.92	13	7	0	0	6	7	0	1	Fixed Object	5
GLOUCESTER COUNTY 648	0	1.89	1.89	8	4	0	0	3	5	0	0	Fixed Object	3

TABLE 4 (continued)

Gloucester County 600 & 700 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002-2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes of Prdmt Type
GLOUCESTER COUNTY 649	0	0.48	0.48	9	9	0	1	3	5	0	0	Angle	3
GLOUCESTER COUNTY 650	0	0.51	0.51	25	25	0	0	11	14	0	0	Same Direction - rear-end	6
GLOUCESTER COUNTY 651	0	5.03	5.03	225	45	6	1	66	158	1	1	Same Direction - rear-end	70
GLOUCESTER COUNTY 652	0	0.74	0.74	18	18	0	0	3	15	0	0	Angle	12
GLOUCESTER COUNTY 653	0	7.69	7.69	94	12	0	0	33	61	1	0	Fixed Object	35
GLOUCESTER COUNTY 654	0	8.06	8.06	450	56	11	0	169	281	1	2	Same Direction - rear-end	210
GLOUCESTER COUNTY 655	0	10.19	10.19	306	30	5	1	116	189	1	1	Same Direction - rear-end	88
GLOUCESTER COUNTY 656	0	3.75	3.75	90	24	1	2	31	57	1	0	Same Direction - rear-end	28
GLOUCESTER COUNTY 657	0	0.91	0.91	5	5	0	0	0	5	0	0	Angle	2
GLOUCESTER COUNTY 658	0	4.22	4.22	63	15	0	0	24	39	0	0	Same Direction - rear-end	20
GLOUCESTER COUNTY 659	0	6.23	6.23	70	11	0	0	26	44	0	0	Fixed Object	30
GLOUCESTER COUNTY 660	0	1.31	1.31	28	21	0	0	10	18	0	0	Same Direction - rear-end	6
GLOUCESTER COUNTY 661	0	1.46	1.46	0	0	0	0	0	0	0	0	#N/A	0
GLOUCESTER COUNTY 662	0	4.77	4.77	41	9	0	1	18	22	0	1	Fixed Object	14
GLOUCESTER COUNTY 663	0	5.19	5.19	95	18	1	0	44	51	1	0	Angle	25
GLOUCESTER COUNTY 664	0	4.27	4.27	13	3	0	0	2	11	0	1	Fixed Object	6
GLOUCESTER COUNTY 665	0	1.61	1.61	11	7	0	0	7	4	0	0	Fixed Object	6
GLOUCESTER COUNTY 667	0	5.73	5.73	13	2	1	0	2	11	0	0	Fixed Object	6
GLOUCESTER COUNTY 667II	0	8.11	8.11	114	14	0	1	53	60	1	0	Fixed Object	39
GLOUCESTER COUNTY 668	0	3.97	3.97	7	2	0	0	4	3	0	0	Fixed Object	6
GLOUCESTER COUNTY 669	0	1.57	1.57	2	1	0	0	0	2	0	0	Same Direction - rear-end	1
GLOUCESTER COUNTY 670	0	1.43	1.43	1	1	0	0	1	0	0	0	Same Direction - rear-end	1
GLOUCESTER COUNTY 671	0	4.18	4.18	9	2	0	0	5	4	0	0	Fixed Object	7
GLOUCESTER COUNTY 672	0	0.69	0.69	0	0	0	0	0	0	0	0	#N/A	0
GLOUCESTER COUNTY 673	0	5.86	5.86	32	5	0	0	13	19	0	0	Angle	14
GLOUCESTER COUNTY 676	0	2.84	2.84	34	12	0	0	9	25	0	0	Fixed Object	11
GLOUCESTER COUNTY 676III	0	0.36	0.36	0	0	0	0	0	0	0	0	#N/A	0
GLOUCESTER COUNTY 678	0	6.39	6.39	102	16	1	0	40	62	0	1	Same Direction - rear-end	32
GLOUCESTER COUNTY 680	0	2.85	2.85	29	10	0	0	9	20	1	0	Fixed Object	9
GLOUCESTER COUNTY 682	0	2.33	2.33	25	11	0	0	5	20	0	0	Angle	6
GLOUCESTER COUNTY 684	0	3.73	3.73	3	1	0	0	2	1	0	0	Fixed Object	2
GLOUCESTER COUNTY 689	0	5.38	5.38	179	33	3	1	71	107	1	1	Same Direction - rear-end	58
GLOUCESTER COUNTY 694	0	7.39	7.39	41	6	0	0	15	26	0	0	Fixed Object	13
GLOUCESTER COUNTY 705	0	1.14	1.14	45	39	2	0	22	23	1	1	Same Direction - rear-end	19
GLOUCESTER COUNTY 706	0	1.59	1.59	38	24	2	0	14	24	0	0	Same Direction - rear-end	21
GLOUCESTER COUNTY 707	0	0.26	0.26	0	0	0	0	0	0	0	0	#N/A	0
GLOUCESTER COUNTY 708	0	0.4	0.4	6	6	0	0	0	6	0	0	Same Direction - rear-end	3
GLOUCESTER COUNTY 709	0	0.11	0.11	1	1	0	0	0	1	0	0	Parked Vehicle	1
GLOUCESTER COUNTY 710	0	0.17	0.17	0	0	0	0	0	0	0	0	#N/A	0
GLOUCESTER COUNTY 712	0	1.21	1.21	2	2	0	0	2	0	0	0	Same Direction - rear-end	1
GLOUCESTER COUNTY 713	0	0.26	0.26	0	0	0	0	0	0	0	0	#N/A	0

SOURCE: NJDOT, 2005

4.1.4 Mercer County

County Summary

Mercer County has forty-seven (47) 600 series county routes totaling 85 miles. The county has no 700 series routes. During the three-year analysis period there were 4,624 total crashes of which 6 were fatal, 1,307 were injury crashes, and 3,311 were property damage only. Seventy-two (72) crashes involved pedestrians and 42 involved bicyclists. Although the most predominant collision type was same direction rear-end crashes topping the list on 16 of the 47 routes, angle crashes were a close second topping the list on 15 routes. No crash data was available for five of the forty-seven routes, all of which were less than one mile long. Eighteen of the forty-seven county routes had fewer than 15 total crashes—the crash cluster threshold value. These and other select data for each of Mercer's 600 county routes are summarized in **TABLE 5**.

Highest Total Crashes – CR 622

Mercer County Route 622 had 981 total crashes, the highest number of crashes on 600 series route during the analysis period. This route is the longest in the county at 6.33 miles. The predominant collision type was same direction rear-end crashes accounting for 35 percent of the total. Angle crashes ranked second at 24 percent. This route was the location of 9 bicycle and 19 pedestrian crashes, the highest number of pedestrian crashes of the 600 routes in the county. Three fatalities—the highest number among the 600 series routes in the county—292 injury and 686 property damage only crashes were recorded. County Route 622 also had the greatest number of crash clusters at 24.

CR 622 is a four-lane roadway and has a posted speed limit of 25 – 40 mph. Traversing Hamilton Township, Trenton City and Ewing Township this route is known locally as South and North Olden Avenues and serves a dense street network. This county route provides access to several major routes including I-295, NJ 33 and US Routes 1 and 206. Traffic count data was not available for CR 622 in the New Jersey Straight Line Diagram.

Highest Crashes per Mile – CR 606

Mercer County Route 606 had the highest number of crashes per mile at 194. Total crashes for the 3.57 mile long route was 692 during the 2002 – 2004 analysis period. Known locally as Hamilton Avenue this route serves a dense residential section of Trenton City and Hamilton Township between US 206 and NJ 33. CR 606 also provides access to NJ 129 and I-295. The predominant collision type was angle crashes accounting for 28 percent, followed closely by rear-end crashes at 25 percent of the total. No fatalities, 181 injury and 511 property damage only crashes were recorded. The facility was also the site of a high number of pedestrian crashes (14) as well as 6 bicycle crashes. Hamilton Avenue has a dense street network with eleven signalized intersections and nearly three times as many non-signalized intersections over its 3.57 mile length. The route is a two-lane facility with a posted speed of 25 mph in Trenton and 35 mph in Hamilton.

TABLE 5

Mercer County 600 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004

County Route Name	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes Prdmt Type
MERCER COUNTY 600	0	0.3	0.3	0	0	0	0	0	0	0	0	#N/A	0
MERCER COUNTY 601	0	0.37	0.37	0	0	0	0	0	0	0	0	#N/A	0
MERCER COUNTY 602	0	0.64	0.64	0	0	0	0	0	0	0	0	#N/A	0
MERCER COUNTY 604	0	2.95	2.95	67	23	1	0	24	43	1	0	Same Direction - rear-end	20
MERCER COUNTY 605	0	0.76	0.76	7	7	0	0	4	3	1	0	Same Direction - rear-end	2
MERCER COUNTY 606	0	3.57	3.57	692	194	17	0	181	511	14	6	Angle	197
MERCER COUNTY 607	0	0.37	0.37	0	0	0	0	0	0	0	0	#N/A	0
MERCER COUNTY 608	0	0.77	0.77	13	13	0	0	4	9	0	0	Fixed Object	8
MERCER COUNTY 609	0	0.68	0.68	5	5	0	0	0	5	0	0	Same Direction - rear-end	3
MERCER COUNTY 611	0	3.55	3.55	88	25	1	0	16	72	0	0	Animal	22
MERCER COUNTY 612	0	2.45	2.45	12	5	0	0	2	10	0	0	Fixed Object	5
MERCER COUNTY 613	0	1.28	1.28	139	109	4	0	58	81	1	1	Same Direction - rear-end	52
MERCER COUNTY 614	0	0.97	0.97	93	93	2	0	31	62	0	0	Angle	25
MERCER COUNTY 615	0	1.85	1.85	49	26	0	0	9	40	0	0	Fixed Object	19
MERCER COUNTY 616	0	1.35	1.35	81	60	1	1	25	55	0	2	Same Direction - rear-end	22
MERCER COUNTY 618	0	2.81	2.81	116	41	2	0	29	87	0	0	Same Direction - rear-end	24
MERCER COUNTY 619	0	1.75	1.75	52	30	0	0	24	28	0	1	Angle	21
MERCER COUNTY 620	0	2.13	2.13	109	51	2	1	42	66	0	1	Angle	33
MERCER COUNTY 622	0	6.33	6.33	981	155	24	3	292	686	19	9	Same Direction - rear-end	342
MERCER COUNTY 623	0	2.87	2.87	23	8	0	0	10	13	0	0	Fixed Object	9
MERCER COUNTY 624	0	1.98	1.98	35	18	0	0	11	24	0	1	Same Direction - rear-end	13
MERCER COUNTY 625	0	2.21	2.21	22	10	0	0	2	20	0	0	Animal	11
MERCER COUNTY 626	0	2.07	2.07	290	140	7	0	72	218	12	2	Angle	103
MERCER COUNTY 627	0	1.28	1.28	90	70	1	0	28	62	1	2	Angle	27
MERCER COUNTY 629	0	1.13	1.13	37	33	0	0	12	25	0	0	Same Direction - rear-end	13
MERCER COUNTY 630	0	1.1	1.1	4	4	0	0	1	3	0	0	Same Direction - rear-end	1
MERCER COUNTY 631	0	0.77	0.77	0	0	0	0	0	0	0	0	#N/A	0
MERCER COUNTY 632	0	0.87	0.87	5	5	0	0	1	4	0	0	Same Direction - rear-end	3
MERCER COUNTY 633	0	1	1	12	12	0	0	2	10	0	0	Angle	4
MERCER COUNTY 634	0	4.93	4.93	284	58	6	1	79	204	1	0	Angle	105
MERCER COUNTY 635	0	1.13	1.61	146	91	4	0	39	107	2	6	Angle	31
MERCER COUNTY 636	0	5.71	5.71	398	70	13	0	96	302	3	5	Angle	129
MERCER COUNTY 637	0	1.05	1.05	3	3	0	0	0	3	0	0	Fixed Object	2
MERCER COUNTY 637	1.24	2.6	1.36	1	1	0	0	1	0	0	0	Fixed Object	1
MERCER COUNTY 638	0	4.21	4.21	173	41	3	0	36	137	0	0	Same Direction - rear-end	61
MERCER COUNTY 639	0	0.33	0.33	24	24	0	0	7	17	1	0	Same Direction - rear-end	14
MERCER COUNTY 640	0	2.23	2.23	24	11	0	0	9	15	0	0	Same Direction - rear-end	6
MERCER COUNTY 641	0	2.2	2.2	21	10	0	0	2	19	0	0	Fixed Object	8
MERCER COUNTY 644	0	1.13	1.13	3	3	0	0	0	3	0	0	Angle	2
MERCER COUNTY 645	0	0.21	0.21	2	2	0	0	2	0	0	0	Same Direction - rear-end	1

SOURCE: NJDOT, 2005

TABLE 5 (continued)

Mercer County 600 Series Routes													* Where Length <1 mile, Crashes Per Mile = Total Crashes	
Crash Summary: 2002-2004													** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004	
County Route Name	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes Prdmnt Type	
MERCER COUNTY 647	0	1.53	1.53	4	3	0	0	1	3	0	0	Fixed Object	2	
MERCER COUNTY 648	0	0.62	0.62	4	4	0	0	0	4	0	0	Angle	2	
MERCER COUNTY 650	0	1.2	1.2	156	130	6	0	46	110	1	1	Same Direction - rear-end	51	
MERCER COUNTY 652	0	0.13	0.13	36	36	1	0	13	23	0	0	Angle	14	
MERCER COUNTY 653	0	1.53	1.53	252	165	6	0	82	170	15	5	Angle	73	
MERCER COUNTY 654	0	3.05	3.05	51	17	0	0	8	43	0	0	Fixed Object	20	
MERCER COUNTY 672	0	2.17	2.17	20	9	0	0	6	14	0	0	Angle	8	

SOURCE: NJDOT, 2005

4.2 500 Series County Routes

Summary

The DVRPC region is served by thirty-eight (38) 500 series county routes totaling 465 miles over the four counties—Burlington, Camden, Gloucester and Mercer. Unlike 600 and 700 series routes, 500 series county routes are inter-county facilities. These roads are typically arterials but are sometimes classified as collectors depending on location. Five hundred routes are typically maintained at the county level, although the state does have jurisdiction over some portions of select routes.

During the three-year analysis period there were 14,544 total crashes of which 59 were fatal, 4,753 were injury crashes and 9,732 were property damage only. One hundred fifty five (155) crashes involved pedestrians and 126 involved bicyclists. The most predominant crash type was same direction rear-end topping the list on 22 of the 38 routes. Angle and hit-fixed object crashes were the second and third most frequent crash types at 6 and 5 respectively. No crash data was available for two routes and only four of the 38 county routes had fewer than 15 total crashes—the crash cluster threshold value. Select data items for each of the 500 series county routes are summarized in **TABLE 6**.

Highest Total Crashes – CR 537

County Route 537 had 1427 total crashes, the highest number of crashes on a 500 series route during the analysis period. This route is also the longest of the 500 series routes in the region at 33 miles. The predominant collision type was rear-end crashes accounting for 31 percent of the total. This route was the location of 23 bicycle and 19 pedestrian crashes. Seven fatal crashes were recorded on this facility—second highest total among the 500 series routes—489 injury and 931 property damage only crashes. County Route 537 also had the greatest number of crash clusters at 33.

Serving DVRPC Region counties of Burlington and Camden, as well as Monmouth County outside the DVRPC region, CR 537 is a multi-purpose route that moves both local and regional traffic. Predominantly two-lanes, except for locations where it intersects a

higher level facility; CR 537 has a varying speed limit of 25-50 mph over the 12 municipalities that it traverses. This route is known by several names each corresponding to a different municipality including Federal Street in Camden City, Marne Highway in Mount Laurel Township, and Monmouth Road in easternmost Burlington County into Monmouth County. According to the NJ Straight Line Diagram traffic volumes in the central and eastern sections of the corridor ranged between 7,000 and 11,000 AADT.

Highest Crashes per Mile – CR 533

County Route 533 had the highest number of crashes per mile at 105. Total crashes for the 10.8 mile route were 1,138 during the 2002 – 2004 analysis period. Known predominantly as either Whitehorse Road or Quakerbridge Road, CR 533 is an arterial route that serves Hamilton, Lawrence, West Windsor and Princeton townships in Mercer County. Over the length of the facility CR 533 varies between two and four lanes with posted speeds between 35 and 50 mph. A traffic volume of 13,000 AADT was recorded in 2004 in the Hamilton Township portion of the corridor. Several county and state routes connect to CR 533, including US 206, NJ 33, and US 1. The predominant collision type was rear-end crashes accounting for 42 percent and angle crashes were second at 22 percent. Two fatal, 388 injury and 748 property damage only crashes occurred on CR 533. Four pedestrian and three bicycle crashes also occurred during the analysis period. Twenty-three clusters were identified.

TABLE 6

500 Series Routes

Crash Summary: 2002-2004

* Where Length <1 mile, Crashes Per Mile = Total Crashes

** Cluster equals 0.1 mile section of > = 15 crashes, for years 2002 - 2004

Route Number	DVRPC Counties Served	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes of Prdmnt Type
518	Mercer	4.53	11.89	7.36	155	21	3	1	29	125	2	0	Angle	34
524	Mercer	0	5.34	5.34	195	37	4	1	69	125	1	2	Same Direction - rear-end	57
526	Mercer	0	9.9	9.9	235	24	4	0	57	178	0	1	Same Direction - rear-end	83
528	Burlington	0	10.81	10.81	110	10	0	1	37	72	0	1	Other or Unknown	22
530	Burlington	0	14.28	14.28	524	37	11	5	162	357	2	2	Same Direction - rear-end	202
532	Burlington	0	19.43	19.43	134	7	0	1	37	96	1	0	Same Direction - rear-end	38
533	Mercer	0	10.88	10.88	1138	105	23	2	388	748	4	3	Same Direction - rear-end	480
534	Gloucester, Camden, Burlington	0	22.21	22.21	1142	51	18	1	419	722	15	11	Same Direction - rear-end	471
535	Mercer	0	11.8	11.8	464	39	9	2	131	331	3	1	Same Direction - rear-end	153
536	Gloucester, Camden	24.24	37.66	13.42	157	12	0	1	67	89	1	2	Fixed Object	51
537	Camden, Burlington	0	32.79	32.79	1427	44	33	7	489	931	19	23	Same Direction - rear-end	436
538	Gloucester	0	24.1	24.1	224	9	1	1	90	133	1	0	Angle	97
539	Mercer	48.36	53.15	4.79	84	18	0	1	21	62	0	0	Angle	25
541	Burlington	0	23.84	23.84	1186	50	25	8	330	848	4	8	Same Direction - rear-end	550
542	Burlington	8.07	20.57	12.5	61	5	0	1	20	40	0	0	Fixed Object	25
543	Camden, Burlington	0	28.77	28.77	705	25	16	4	246	455	22	14	Same Direction - rear-end	179
544	Gloucester, Camden, Burlington	0	14.94	14.94	1167	78	26	0	393	774	7	5	Same Direction - rear-end	479
545	Burlington	0	14.76	14.76	196	13	1	3	59	134	1	0	Angle	42
546	Mercer	0	9.98	9.98	401	40	5	0	114	287	0	1	Same Direction - rear-end	121
551	Gloucester, Camden	12.3	34.57	22.27	786	35	21	0	247	539	25	17	Same Direction - rear-end	219
553	Gloucester	34.26	51.22	16.96	499	29	13	3	187	309	3	5	Same Direction - rear-end	187
555	Gloucester	18.93	34.2	15.27	365	24	5	4	151	210	1	1	Angle	98
557	Gloucester	30.38	36	5.62	39	7	0	0	13	26	0	0	Angle	21
561	Camden	23.95	51.05	27.1	1301	48	29	4	493	804	25	22	Same Direction - rear-end	520
563	Burlington	24.23	43.87	19.64	77	4	0	2	27	48	0	0	Fixed Object	24
569	Mercer	0	8.53	8.53	107	13	0	0	26	81	0	0	Fixed Object	32
571	Mercer	31.33	44.06	12.73	690	54	14	3	149	538	6	1	Same Direction - rear-end	282
579	Mercer	0	10.92	10.92	132	12	3	0	15	117	1	0	Animal	75
581	Gloucester	13	17.57	4.57	39	9	0	1	11	27	0	1	Fixed Object	15
583	Mercer	1.06	9.11	8.05	53	7	0	0	12	41	1	0	Same Direction - rear-end	22
5611	Camden	0	0.69	0.69	10	10	0	0	2	8	0	0	Same Direction - rear-end	4
5613	Camden	0	0.55	0.55	0	0	0	0	0	0	0	0	#N/A	0
5614	Camden	0	0.56	0.56	1	1	0	0	1	0	0	0	Animal	1
536 Spur	Gloucester, Camden	0	7.57	7.57	375	50	6	1	158	216	1	3	Same Direction - rear-end	145
537 Spur	Camden	0	0.72	0.72	61	61	3	0	13	48	1	0	Same Direction - rear-end	13
541 T	Burlington	0	1.49	1.49	0	0	0	0	0	0	0	0	#N/A	0
551 S	Camden	0	4.27	4.27	154	36	5	1	45	108	6	2	Same Direction - rear-end	45
553 A	Gloucester	0	6.19	6.19	150	24	1	0	45	105	2	0	Same Direction - rear-end	40

SOURCE: NJDOT, 2005

4.3 STATE, INTERSTATE, TOLL, AND US ROUTES

4.3.1 State Route Summaries

Summary

The DVRPC region's four New Jersey counties are served by twenty-five (25) New Jersey state routes totaling 262 miles. These routes are higher functioning, inter-county facilities, classified as either arterials (minor or principal) or expressways and are intended to move traffic regionally. State routes are maintained by the New Jersey Department of Transportation.

During the three-year analysis period there were 20,759 total crashes of which 69 were fatal, 6,640 were injury crashes, and 14,050 were property damage only. One hundred fifty-nine (159) crashes involved pedestrians and 119 involved bicyclists. The most predominant crash type was same direction rear-end topping the list on 17 of the 25 routes. Only one route had fewer than 15 total crashes—the crash cluster threshold value. Select data items for each of the state series routes are summarized in **TABLE 7**.

Highest Total Crashes – NJ 70

NJ 70 had 2,906 total crashes, the highest number of crashes on any state route during the analysis period. This route is also the longest of the state routes in the region at 33 miles. The predominant collision type was rear-end crashes accounting for 53 percent of the total, followed by sideswipe crashes at 19 percent. Twelve (12) bicycle and 12 pedestrian crashes occurred along NJ 70. Eight fatal crashes were recorded on this facility—fourth highest total among the state routes—860 injury and 2,038 property damage only crashes. NJ 70 had the second highest number of crash clusters at 50.

Serving DVRPC Region counties of Camden and Burlington, as well as Ocean and Monmouth counties outside the DVRPC region, NJ 70 carries both local and regional traffic, as well as seasonal shore traffic. Within Camden County NJ 70 varies between 4 and 8 lanes divided by a grass median, with a posted speed limit of 45 mph. In Burlington County the setting becomes more rural and the roadway cross section changes to a consistent two lanes with a speed limit of 50 mph. Traffic volumes are between 45,000 and 65,000 AADT in the Camden County portion. In Burlington County, volumes drop significantly, to between 19,000 and 23,000.

Highest Crashes per Mile – NJ 42

NJ 42 had the highest number of crashes per mile at 182. Total crashes for the 14 mile route were 2,592 during the 2002 – 2004 analysis period, second highest among state routes. In the southern section where it is known as the Blackhorse Pike, NJ 42 is classified as a principal arterial route serving Monroe and Washington townships in Gloucester County. A 2005 traffic count recorded an AADT of 29,700 vehicles in this section. The southern section carries 2-3 lanes with a posted speed limit of 50 mph. In the northern section, NJ 42 becomes a limited access expressway with a 4-lane cross section and a posted speed limit of 55 mph. Known as the North-South Freeway, this section of NJ 42 is a heavily traveled commuter and shore traffic route. This is one of the DVRPC region's most significant commuter routes. Volumes in this section are typically around 100,000 AADT. Several county and state routes connect to NJ 42, including US 322, NJ 168, NJ 41, NJ 55 and I-295.

The predominant collision type was rear-end crashes accounting for 56 percent, followed by sideswipe crashes at 15 percent. Seven fatal, 710 injury and 1,875 property damage only crashes occurred on NJ 42. Ten pedestrian and six bicycle crashes also occurred during the analysis period. This facility was tied for third place regarding number of clusters identified; there were 46.

TABLE 7

State Routes													* Where Length <1 mile, Crashes Per Mile = Total Crashes	
Crash Summary: 2002-2004													** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004	
Route Number	DVRPC Counties Served	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes Per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes of Prdmnt Type
NJ 27	Mercer	0	3.02	3.0	355	118	7	2	74	279	13	1	Same Direction - rear-end	109
NJ 29	Mercer	0	17	17.0	925	54	14	9	258	658	4	0	Same Direction - rear-end	368
NJ 31	Mercer	0	12.27	12.3	1205	98	10	4	324	877	6	6	Same Direction - rear-end	485
NJ 33	Mercer	0	16.42	16.4	1521	93	39	4	485	1032	24	17	Same Direction - rear-end	513
NJ 38	Camden, Burlington	0	19.07	19.1	2325	122	46	9	827	1489	17	6	Same Direction - rear-end	1473
NJ 41	Gloucester, Camden, Burlington	0	14.22	14.2	1005	71	23	2	357	646	6	12	Same Direction - rear-end	421
NJ 42	Gloucester, Camden	0	14.28	14.3	2592	182	46	7	710	1875	10	6	Same Direction - rear-end	1458
NJ 44	Gloucester	0	9.59	9.6	150	16	1	0	56	94	3	3	Angle	33
NJ 45	Gloucester	12.49	28.51	16.0	1023	64	23	3	335	685	14	9	Same Direction - rear-end	385
NJ 47	Gloucester, Camden	51.78	75.19	23.4	1312	56	27	6	492	814	14	13	Same Direction - rear-end	446
NJ 64	Mercer	0	0.32	0.3	41	41	1	0	14	27	1	1	Fixed Object	12
NJ 68	Burlington	0	7.97	8.0	148	19	2	1	40	107	0	0	Same Direction - rear-end	60
NJ 70	Camden, Burlington	0	33.43	33.4	2906	87	50	8	860	2038	12	12	Same Direction - rear-end	1526
NJ 72	Burlington	0	11.49	11.5	141	12	2	1	30	110	0	0	Animal	43
NJ 73	Camden, Burlington	4.14	34.64	30.5	2846	93	56	10	1016	1820	11	6	Same Direction - rear-end	1594
NJ 77	Gloucester	17.51	22.55	5.0	28	6	0	0	10	18	0	0	Angle	8
NJ 90	Camden	0	3.22	3.2	26	8	0	0	10	16	0	0	Same Direction - rear-end	9
NJ 129	Mercer	0	2.41	2.4	249	103	4	1	79	169	4	3	Same Direction - rear-end	107
NJ 133	Mercer	0	3.59	3.6	34	9	0	0	7	27	0	0	Fixed Object	12
NJ 154	Camden	0	1.58	1.6	166	105	5	1	61	104	0	1	Same Direction - rear-end	81
NJ 156	Mercer	0	1.18	1.2	48	41	1	0	12	36	0	0	Angle	21
NJ 168	Gloucester, Camden	0	10.75	10.8	1609	150	46	1	568	1040	20	22	Same Direction - rear-end	623
NJ 175	Mercer	0	2.95	3.0	23	8	0	0	6	17	0	0	Fixed Object	11
NJ 324	Gloucester	0	1.51	1.5	1	1	0	0	0	1	0	0	Fixed Object	1
NJ 413	Burlington	0	0.76	0.8	80	80	3	0	9	71	0	1	Same Direction - Sideswipe	36

SOURCE: NJDOT, 2005

4.3.2 Interstate Route Summaries

Summary

There are five interstate facilities serving DVRPC's New Jersey counties which combined account for 84 miles, they are: I-76, I-95, I-195, I-295, I-676. These routes are multi-lane facilities that carry traffic throughout the state, and all but one, I-195, connect New Jersey with neighboring states. These roads are limited access expressways classified as urban interstates and are maintained by the New Jersey Department of Transportation.

During the three-year analysis period there were 9,200 total crashes of which 24 were fatal, 2,227 were injury crashes and 6,949 were property damage only. Despite the fact that pedestrians are prohibited from interstates, 12 pedestrian crashes were identified in the database. Select data items for each of the interstate series routes are summarized in **TABLE 8**.

TABLE 8

Interstate Routes		* Where Length <1 mile, Crashes Per Mile = Total Crashes												
Crash Summary: 2002-2004		** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004												
Route Number	DVRPC Counties Served	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002-2004	*Crashes Per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes of Prdmt Type
I-76	Camden	0	3.08	3.1	1388	451	9	1	372	1015	1	0	Same Direction - rear-end	588
I-95	Burlington, Mercer	0	8.77	8.77	776	88	23	1	150	625	1	0	Same Direction - rear-end	283
I-195	Mercer	0	8.33	8.3	459	55	12	2	115	342	1	0	Fixed Object	145
I-295	Gloucester, Camden, Burlington, Mercer	8.93	67.79	58.9	6102	104	97	19	1441	4642	9	0	Same Direction - rear-end	2161
I-676	Camden	0	4.75	4.8	475	100	14	1	149	325	0	0	Fixed Object	180

SOURCE: NJDOT, 2005

I-76

At 3.1 miles I-76 is the shortest interstate in the study area. Located in Camden County, I-76 carries three to six lanes delivering traffic to and from the Walt Whitman Bridge and connecting to several facilities in South Jersey: I-676, NJ 168, US 130, NJ 42 and I-295. Due to its key location, this facility is important as an interstate commuter facility and is a crucial link for summer shore bound traffic. According to the New Jersey Straight Line Diagram, the average annual daily traffic volume was in excess of 150,000 vehicles during 2005. The posted speed limit is 55 miles per hour (mph) at the facility’s eastern end, and 45 mph at the western end near the approach to the Walt Whitman Bridge.

There were 1,388 total crashes on I-76 during the study period, third highest total among the five interstate routes. The most predominant crash type was same direction rear-end accounting for 588 crashes (42 percent). Hit-fixed object and sideswipe crashes were the second and third most frequent crash types at 27 and 24 percent respectively.

During the study period only one fatal crash was recorded on this facility, plus 372 injury and 1,015 property damage only crashes. I-76 had the lowest number of crash clusters at nine, which may be attributable to its short length.

I-676

At 4.8 miles in length, I-676 is the second shortest interstate in the New Jersey portion of the region. Situated in Camden City, I-676 carries three to four lanes running parallel to the Delaware River and serves as a connector between the Ben Franklin and Walt Whitman Bridges providing access to portside industries. At the north end, I-676 connects to US 30 and the Ben Franklin Bridge. At the south end, it connects with the Walt Whitman Bridge and I-76 which leads to NJ 42 and I-295. The most recent traffic count found on the New Jersey Straight Line Diagram was from 2005 showing an AADT of 67,000 vehicles.

There were 475 total crashes on I-676 during the study period, fourth highest total among the five interstate routes. The most predominant crash type was hit-fixed object accounting for 180 crashes (40 percent). Rear-end and sideswipe crashes were the second and third most frequent crash types at 31 and 22 percent respectively.

During the study period only one fatal crash was recorded on this facility, plus 149 injury and 325 property damage only crashes. I-676 had 14 crash clusters.

I-95

There are two entries for I-95 in the New Jersey Department of Transportation's Straight Line Diagram (SLD) database within the DVRPC region: I-95M and I-95/New Jersey Turnpike. The New Jersey Turnpike is designated as I-95/New Jersey Turnpike from roughly the interchange at US 130 in Burlington County north to Fort Lee in Bergen County where it continues over the George Washington Bridge into New York. This section of the turnpike has been combined with the lower section (south to the Delaware River) and described as one facility under the Toll Roads section.

Interstate 95, or I-95M as it is considered in the SLD, is an 8.77 mile interstate facility within the DVRPC region making it the second longest toll road. This facility exists solely within Mercer County and connects to Pennsylvania across the Scudder Falls Bridge over the Delaware River on one end, and becomes I-295 at the other end where it interchanges with US 1. Over its length I-95 interchanges with the following routes: NJ 29, CR 579 Bear Tavern Road, CR 611 Scotch Road, NJ 31, CR 546 Federal City Road, US 206, and US 1.

This facility is classified as an urban interstate and is under the jurisdiction of the New Jersey Department of Transportation. The typical cross section is six lanes and the posted speed limit is 65 mph. Traffic volumes available for this facility in the SLD ranged from 51,000 to 73,000 (2000 – 2005).

There were 776 total crashes on I-95 during the study period, third highest total among the five interstate routes. The most predominant collision type was rear-end crashes accounting for 283 crashes (36 percent). Hit-fixed object and sideswipe crashes were the second and third most predominant crash types with 197 (25 percent) and 188 (15 percent) crashes respectively.

During the study period there was one fatal crash, 150 injury crashes, and 625 property damage only crashes were recorded during the study period. Twenty-three crash clusters were identified on I-95.

I-195

At 8.3 miles in length within the New Jersey portion of the region, I-195—also known as the James J. Howard Interstate Highway—is the third longest interstate. Located in Mercer County, I-195 carries four lanes and has a posted speed limit of 65 mph. I-195 is classified as an urban interstate.

The western end of this facility begins in Hamilton Township at an interchange with I-295 and is laid out in a predominantly east-west fashion. Over its length within the DVRPC region I-195 connects to several county routes and the following state and interstate routes: I-295, US 206, US 130, and I-95/NJTPK. Traffic counts taken from the SLD showed an average AADT of 50,000 vehicles per day.

During the study period 459 crashes were recorded, the lowest number among the five interstate routes. The most predominant crash type was hit-fixed object accounting for 145 crashes (32 percent). Rear-end and sideswipe crashes were the second and third most frequent crash types at 28 and 18 percent respectively.

I-195 was the site of 2 fatal crashes, 115 injury crashes and 342 property damage only crashes. Twelve clusters were identified.

I-295

At 58.9 miles in length, I-295 is the longest interstate in the New Jersey portion of the DVRPC region. I-295 runs in a northeasterly alignment traversing all four counties and carrying four to six lanes with a posted speed limit of 65 mph. It is classified as an urban interstate.

Within the DVRPC region, the southern end of this facility begins in Logan Township, Gloucester County at exit 10/Center Square Road. The facility ends officially in Lawrence Township, Mercer County, at exit 67/US 1 where the facility is designated as I-95. Within the DVRPC region I-295 connects to several county routes and the following state and interstate routes (south to north): US 322, US 130, NJ 45, NJ 47, NJ 42, I-76, NJ 168, US 30, NJ 41, NJ 70, NJ 73, NJ 38, NJ 29, I-195, US 206, NJ 33 and US 1. Traffic volumes taken from the SLD showed AADTs between 30,000 and 70,000 vehicles per day in the more rural areas of the south, and volumes in excess of 100,000 in the vicinity of major interchanges.

During the study period 6,102 crashes were recorded, the highest number among the five interstate routes. The most predominant crash type was same direction rear-end accounting for 2,161 crashes (35 percent). Hit-fixed object and sideswipe crashes were the second and third most frequent crash types at 29 and 19 percent respectively. Nineteen fatal crashes, 1,441 injury crashes, and 4,642 property damage only crashes occurred. Ninety-seven clusters were identified.

4.3.3. Toll Route Summaries

Summary

There are three toll routes serving DVRPC's New Jersey counties which combined account for 89 miles, they are: **Garden State Parkway**, **Atlantic City Expressway**, and the **New Jersey Turnpike**. These routes are multi-lane facilities that carry traffic throughout the state. The New Jersey Turnpike also connects New Jersey to neighboring states Delaware and New York. These

roads are limited access expressways classified as rural principal arterials or as urban freeways/expressways. The Atlantic City Expressway is maintained by the South Jersey Transportation Authority, and both the Garden State Parkway and the New Jersey Turnpike are maintained by the New Jersey Turnpike Authority.

During the three-year analysis period there were 5,659 crashes of which 38 were fatal, 1,343 were injury crashes and 4,278 were property damage only. Although pedestrians are prohibited from toll facilities (as is the case with interstates), 14 pedestrian crashes were identified in the database. Complete details for each route are provided in the spreadsheet so they may be evaluated separately, see **TABLE 9**.

TABLE 9

Toll Routes		Crash Summary: 2002-2004													
Route Number	Route Name	DVRPC Counties Served	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes Per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes of Prdmnt Type
444	Garden State Parkway	Burlington	48.95	55.71	6.8	344	51	5	7	92	245	2	0	Fixed Object	104
446	Atlantic City Expressway	Camden	29.5	44.19	14.7	559	38	5	4	171	384	1	0	Fixed Object	279
700	NJ Turnpike	Gloucester, Camden, Burlington	8.11	52.17	44.06	2079	47	24	9	479	1591	8	0	Fixed Object	660
I-95 NJ Turnpike	NJ Turnpike	Burlington, Mercer	0	23.4	23.4	2677	114	75	18	601	2058	3	0	Same Direction - Rear End	1026
COMBINED (700 +I-95/ NJTPK)	NJ Turnpike	All DVRPC NJ Counties	NA	NA	67.46	4756	71	99	27	1080	3649	11	0	Same Direction - Rear End	1466

SOURCE: NJDOT, 2005

Garden State Parkway

Within the DVRPC region there are only 6.8 miles of the Garden State Parkway, which pass through Burlington County. This route follows the coastline for nearly the whole of New Jersey between Cape May County and Bergen County. The facility carries four lanes and has a posted speed limit of 65 mph. Despite the short stretch through the region there are two interchanges within Burlington County: exit 50 at NJ 167 and exit 52 at US 9. No traffic volumes were available for this section of the parkway from the New Jersey Straight Line Diagram.

There were 344 total crashes during the study period, lowest of the toll routes. The most predominant crash type was hit-fixed object accounting for 104 crashes (42 percent). Other/unknown and rear-end crashes were the second and third most frequent crash types at 25 and 19 percent respectively. During the study period seven fatal crashes were recorded on this facility, plus 92 injury and 245 property damage only crashes. The parkway was tied for second with the Atlantic City Expressway with five crash clusters each.

Atlantic City Expressway

Within the DVRPC region there are 14.7 miles of the Atlantic City Expressway, passing predominantly through Camden County. This route provides a high speed, controlled access connection between Atlantic City and the major routes leading to the Walt Whitman and Ben Franklin Bridges. This facility carries four lanes and has a posted speed limit of 65 mph. The Atlantic City Expressway is classified as an urban freeway/expressway and is part of the National Highway System. There are two interchanges within the region: exit 41 at CR 689 in Gloucester Township, and exit 38 at CR 536 Spur in Winslow Township. Traffic volumes of between 30,000 and 41,000 (2001) were available for this section of the expressway from the New Jersey Straight Line Diagram.

There were 559 total crashes during the study period. The most predominant crash type was hit-fixed object accounting for 279 crashes (50 percent). Rear-end and sideswipe crashes were the second and third most frequent crash types at 16 and 12 percent respectively. During the study period four fatal crashes were recorded on this facility, plus 171 injury and 384 property damage only crashes. Five crash clusters were identified.

New Jersey Turnpike

The New Jersey Turnpike (NJTPK), 67.4 miles within the DVRPC region, is the longest of the toll routes. It parallels I-295 in a northeasterly alignment traversing all four counties and carrying four to six lanes with a posted speed limit of 65 mph. Despite the route's uninterrupted continuity, it is broken into two distinct sections in the Straight Line Diagram: Route 700, and I-95/NJTPK. For the purposes of this analysis the two data sets have been combined to represent the turnpike's physical continuity.

The turnpike connects New Jersey with Delaware State to the south and New York City to the north, in one continuous controlled access facility. This stretch of the turnpike interchanges at the following locations within DVRPC's region: exit 2 at US 322 in Gloucester County, exit 3 at NJ 168 in Camden County; exit 4 at NJ 73, exit 5 at CR 541, exit 6 at the PA Turnpike Extension, exit 6A at US 130, and exit 7 at US 206—all in Burlington County; exit 7A at I-195 and exit 8 at NJ 33 in Mercer County. This facility is classified as an urban freeway/expressway, and is part of the National Highway System. Traffic volumes of between 50,000 AADT (2005) in the south, and 80,000 AADT (2005) in the north were available from the New Jersey Straight Line Diagram.

There were 4,756 total crashes during the study period. The most predominant crash type was rear-end crashes accounting for 1,466 crashes or 30 percent. Hit fixed object and sideswipe crashes were the second and third most frequent crash types at 25 percent (1,201) and 19 percent (935) respectively. There were twenty-seven fatal crashes, 1,080 injury, and 3,649 property damage only crashes recorded on this facility. Ninety-nine crash clusters were identified.

4.3.4 US Route Summaries

Summary

The New Jersey portion of the DVRPC region is served by eight US routes which combined total 201 miles. Although these routes are higher functioning roads that are inter-county and interstate, they also sometimes serve as downtown main streets or rural routes. These roads are classified as urban principal arterials and are intended to move traffic regionally. US routes are maintained by the New Jersey Department of Transportation.

During the three-year analysis period there were 16,054 total crashes of which 60 were fatal, 5,201 were injury crashes and 10,793 were property damage only. One hundred forty-three (143) crashes involved pedestrians and 87 involved bicyclists. Same direction rear-end was the most predominant crash type topping the list on all 8 of the routes for a combined total of 6,623 crashes. Complete details for each route are provided in the spreadsheet so they may be evaluated separately, see **TABLE 10**.

TABLE 10

US Routes														* Where Length <1 mile, Crashes Per Mile = Total Crashes	
Crash Summary: 2002-2004														** Cluster equals 0.1 mile section with > or = 15 crashes, for years 2002 - 2004	
Route Number	DVRPC Counties Served	Mile Post Start	Mile Post End	Length in Miles	Total Crashes 2002 -2004	*Crashes Per Mile	**Identified Clusters	Fatal Crashes	Injury Crashes	Property Damage	Pedestrian Crashes	Bicycle Crashes	Predominant Crash Type	Number of Crashes of Prdmnt Type	
US 1	Mercer	0	11.96	11.96	2566	215	36	3	662	1901	3	1	Same Direction - rear-end	1454	
US 1 Bus	Mercer	0	2.73	2.73	252	92	6	0	84	168	3	3	Same Direction - rear-end	95	
	GloCo, CamCo, BurlCo,														
US 130	Mercer	8.84	70.04	61.20	5234	86	95	23	1658	3553	31	32	Same Direction - rear-end	2108	
US 206	Burlington, Mercer	6.28	57.23	50.95	3307	65	78	10	978	2319	54	23	Same Direction - rear-end	1163	
US 30	Camden	0	27.95	27.95	3083	110	68	14	1242	1827	37	22	Same Direction - rear-end	1196	
US 322	Gloucester	0	32.92	32.92	1271	39	29	7	448	816	12	6	Same Direction - rear-end	507	
US 40	Gloucester	24.55	32.7	8.15	243	30	4	2	95	146	1	0	Same Direction - rear-end	75	
US 9	Burlington	54.85	59.94	5.09	98	19	0	1	34	63	2	0	Same Direction - rear-end	25	

SOURCE: NJDOT, 2005

US Route 1

US Route 1 is listed separately from US Route 1 Business in the NJDOT Straight Line Diagram, as they serve differing purposes. US Route 1 proper traverses approximately 12 miles of the DVRPC region through Mercer County including the City of Trenton, Lawrence Township and West Windsor Township. Over its entire length US 1 connects Trenton City, Mercer County with Fort Lee Borough, Bergen County covering almost 65 miles across the state.

US Route 1 is a freeway with frequent interchanges that are closely spaced, unlike a typical interstate. This facility carries between four and eight lanes, has a posted speed limit of between 50 and 55 mph, is predominantly classified as an urban principal arterial and is part of the National Highway System. A traffic volume of 38,000 AADT (SLD 2004) was recorded in the southern portion of the corridor, while volumes rise to approximately 75,000 AADT (SLD 2004) moving north.

There were 2,566 total crashes during the study period. The most predominant crash type was same direction rear-end accounting for 1,454 crashes (56 percent). Sideswipe and hit-fixed object crashes were the second and third most frequent crash types at 20 and 12 percent respectively. There were three fatal crashes recorded on this facility, 662 injury and 1,901 property damage only crashes. Thirty-six crash clusters were identified. US 1 was the site of 3 pedestrian crashes and 1 bicycle crash during the analysis period.

US Route 1 Business

US Route 1 Business is listed separately from US Route 1 main line in the NJDOT Straight Line Diagram. US Route 1 Business is a short stretch of roadway (2.73 miles) that runs through the City of Trenton and into Lawrence Township, Mercer County.

US Route 1 Business is a four lane facility, has a posted speed limit of 55 mph, and is classified as an urban principal arterial. Traffic volumes of 20,000 to 338,000 AADT (SLD '04, '05) were recorded along the corridor. This facility carries mostly local traffic.

There were 252 total crashes during the study period. The most predominant crash type was same direction rear-end accounting for 95 crashes (38 percent). Sideswipe and angle crashes were the second and third most frequent crash types at 23 and 18 percent respectively. There were no fatal crashes recorded on this facility, 84 injury, and 168 property damage only crashes. Six crash clusters were identified. US 1 Business was the site of 3 pedestrian crashes and 3 bicycle crashes during the analysis period.

US Route 9

Although US Route 9 traverses 136 miles within New Jersey, only 5 miles of the facility lie within DVRPC's region, specifically in Bass River Township, Burlington County. Over its entire length US 9 connects Cape May County with Middlesex County.

US Route 9 carries only two lanes, has a posted speed limit of between 35 and 55 mph, and is classified as a rural minor arterial. A traffic volume of 10,000 AADT (SLD 2005) was recorded along this portion of the corridor.

There were 98 total crashes during the study period. The most predominant crash type was same direction rear-end accounting for 25 crashes (26 percent). Other/unknown and head on crashes were the second and third most frequent crash types at 19 and 14 percent respectively. There was one fatal crash recorded on this facility, 34 injury and 63 property damage only crashes. No crash clusters were identified. US 9 was the site of 2 pedestrian crashes.

US Route 30

US 30 is situated in the heart of the DVRPC region crossing both Pennsylvania and New Jersey. On the New Jersey side, US 30 is the central most facility in Camden County stretching from the Ben Franklin Bridge to Atlantic County, passing through eighteen

municipalities along the way and covering 28 miles in the region's New Jersey counties. Over its entire length US 30 connects Camden City with the Jersey Shore. US Route 30 carries between 2 and 8 lanes, has a posted speed limit of between 30 and 50 mph, and is classified as an urban principal arterial. US 30 carries a wide range of traffic volumes (15,000 – 70,000 AADT) depending on the location. The highest volumes are found in the western section where NJ 38 and NJ 70 merge into US 30.

There were 3,083 total crashes during the study period. The most predominant crash type was same direction rear-end accounting for 1,196 crashes (39 percent). Angle and sideswipe crashes were the second and third most frequent crash types at 16 and 14 percent respectively. There were 14 fatal crashes recorded on this facility, 1,242 injury and 1,827 property damage only crashes. Sixty-eight crash clusters were identified. US 30 was the site of 37 pedestrian crashes and 22 bicycle crashes during the analysis period.

US Route 40

Within the DVRPC region there are eight miles of US 40 situated in Franklin Township, Gloucester County. This is a small portion of the 64 miles of US 40 which stretch between Carney's Point, Salem County and Atlantic City, Atlantic County. US Route 40 carries two lanes, has a posted speed limit of 50 mph and is classified as an urban principal arterial. A traffic volume of 11,000 AADT was listed on the SLD (2004) along this section of the facility.

There were 243 total crashes during the study period. The most predominant crash type was same direction rear-end accounting for 75 crashes (31 percent). Angle and hit-fixed object crashes were the second and third most frequent crash types at 20 and 16 percent respectively. There were 2 fatal crashes recorded on this facility, 95 injury and 146 property damage only crashes. Four crash clusters were identified. US 40 was the site of 1 pedestrian crash.

US Route 130

The largest portion of US 130, 61 of the 83 total miles, passes through all of the four New Jersey counties of the DVRPC Region, making it the longest US route in the region. From end to end US 130 connects Pennsville Township, Salem County with North Brunswick, Middlesex County. This section of the facility carries between four and six lanes, has varying posted speed limits of between 40 and 55 mph, and is classified predominantly as an urban principal arterial. US 130 is also part of the National Highway System. Traffic volumes like posted speed limits also vary. The SLD listed several volumes ranging between 20,000 and 50,000 AADT. US 130 is the longest US route in the New Jersey portion of DVRPC's region.

There were 5,234 total crashes during the study period, highest among US routes. The most predominant crash type was same direction rear-end accounting for 2,108 crashes (40 percent). Sideswipe and angle crashes were the second and third most frequent crash types at 25 and 12 percent respectively. There were 23 fatal crashes recorded on this facility, 1,658 injury, and 3,553 property

damage only crashes. Ninety-five crash clusters were identified. US 130 was the site of 31 pedestrian crashes and 32 bicycle crashes during the analysis period—highest number of bicycle crashes among the US routes.

US Route 206

A significant portion of US 206, 51 of the 130 total miles, passes through Burlington and Mercer counties within the DVRPC region, making it the second longest US route. From end to end, US 206 connects Hammonton, Atlantic County with Montague Township, Sussex County and ends at the New York State line. In the DVRPC's region this section of the facility carries between two and four lanes and has varying posted speed limits of between 35 and 50 mph. US 206's functional class varies between rural principal arterial and urban principal arterial, and it is listed on the National Highway System. Traffic volumes, like the posted speed limits, also vary. The SLD listed several volumes ranging between 14,000 and 31,000 AADT (2003 – 2005) at various locations.

There were 3,307 total crashes during the study period. The most predominant crash type was same direction rear-end accounting for 1,163 crashes (35 percent). Angle and same direction sideswipe crashes were the second and third most frequent crash types at 20 and 13 percent respectively. There were 10 fatal crashes recorded on this facility, 978 injury and 2,319 property damage only crashes. Seventy-eight crash clusters were identified. US 206 was the site of 54 pedestrian crashes—highest among US routes—and 23 bicycle crashes during the analysis period.

US Route 322

Thirty-three miles (more than half) of the US 322 mileage within New Jersey falls in Gloucester County. From end to end in New Jersey US 322 is 50 miles long and connects the Commodore Barry Bridge in Logan Township, Gloucester County, with Folsom Borough, Atlantic County. The section of the facility in Gloucester County carries between two and six lanes and has varying posted speed limits of between 30 and 55 mph. US 322's functional class varies between rural principal arterial and urban principal arterial, and it is listed on the National Highway System. Traffic volumes also vary throughout its length. The SLD listed several volumes ranging between 11,000 and 36,000 AADT (2002 – 2004) at various locations.

There were 1,271 total crashes during the study period. The most predominant crash type was same direction rear-end accounting for 507 crashes (40 percent). Angle and hit-fixed object crashes were the second and third most frequent crash types at 18 and 15 percent respectively. There were 7 fatal crashes recorded on this facility, 448 injury and 816 property damage only crashes. Twenty-nine crash clusters were identified. US 322 was the site of 12 pedestrian crashes and 6 bicycle crashes during the analysis period.

4.4 CLUSTER ANALYSIS

The Cluster Finder crash database analysis tool was employed on every route for which a crash summary identified 15 or more total crashes. The cluster criteria were defined as 15 or more crashes occurring within a 1/10 mile segment of roadway, during the three-year analysis period (2002-2004). For consistency, this criteria was used on every route regardless of functional class, number of lanes, or traffic volume. The low threshold of 15 crashes was necessary to obtain a useful set of data for the lower volume roads. On higher volume roads concentrations of 15 crashes are less significant comparatively, because increased traffic volume often correlates positively with increased crash volume.

The Cluster Finder tool employs an algorithm that searches database records by route for concentrations of crashes that meet user specified criteria. The user input fields are:

- State Route Identifier (SRI)
- Route Name
- County Name
- Starting Year
- Ending Year
- Collision Type
- Threshold Limit
- Cluster Length

The Algorithm

- Based on the search criteria, crash concentrations within the specified segment length meeting or exceeding the threshold are queried out and sorted by Mile Post (MP).
- The total number of crashes is calculated for each segment.
- Each segment (cluster length) and total (number of crashes) is scanned and the first segment that has a total crash count that meets or exceeds the specified threshold limit is identified.
- When this segment is found, the beginning and ending Mile Posts are stored, and then the scanning continues with the next segment. If the next segment has a lower crash count than the previous one, then the previous segment will be identified as a cluster. If the next segment has a higher crash count then this step is repeated until a lower crash count is found.
- Once the cluster is found, the algorithm will move the pointer to the next record following the last cluster's ending Mile Post. For example, if the last cluster found has the limits MP 1.34 to MP 1.44 (a 1/10 mile cluster), then the next record to be examined will be greater than MP 1.44, but not necessarily MP 1.45, unless a crash was recorded at that location. This is how the algorithm avoids selecting overlapping segments.
- These steps are repeated for all records in the table coded to the specified route.

NOTE: Not every one hundredth of a Mile Post is represented in the crash database; only those locations where a crash was recorded are represented.

Cluster Analysis Summary

A total of 1,692 crash clusters of 15 or more crashes over 1/10th mile were identified on the 478 unique routes that comprise the roadway system of DVRPC's four New Jersey counties, excluding local and private property facilities.

4.4.1 County Route Clusters (by county)

Summary

The DVRPC region is served by three hundred thirty-eight (338) 600 series county routes, and sixty-one (61) 700 series county routes, for a combined total of 1,047 miles within the four counties—Burlington, Camden, Gloucester and Mercer. Unlike 500 series county routes which are inter-county facilities, 600 and 700 series routes are intra-county. After local roads, New Jersey's county route system is the largest component of the roadway network accounting for more than twice the mileage of the higher level road systems combined within our region (500, 600, and 700 combined = 1,512 miles; state, interstate, toll and U.S. combined = 720 miles). A total of four hundred thirty-four (434) clusters of 15 or more crashes—over 1/10th mile—were identified on 107 of the 399 six and seven hundred series routes combined. No clusters were identified on the remaining 292 routes.

Burlington County has one hundred 600 series county routes totaling 355 miles. Burlington County has no 700 series routes (as of 2004). During the analysis period 84 clusters accounting for 1,939 crashes were identified on 30 of the 100 six hundred series county routes. The number of clusters identified on a given route ranged between 1 and 16. Some observations about the 600 and 700 series cluster analysis are as follows:

- Of the 30 routes where clusters were identified 29 had fewer than 10 clusters, 15 routes had only 1 cluster
- County Route 607 had the greatest number of clusters (16), the highest total crashes (659), and is the fourth longest route
- County Route 607 had the highest cluster total with 78 crashes

Camden County has one hundred seven (107) 600 series county routes and fifty-three (53) 700 series routes totaling 284 miles. During the three-year analysis period 197 clusters accounting for 5,353 crashes were identified on 42 of the 160 six and seven hundred series county routes. Number of clusters per route ranged from 1 to 27. Observations about the Camden County clusters:

- Of the 42 routes where clusters were identified, only 5 routes had more than 10 clusters, 12 routes had only one cluster
- CR 673 had the highest number of clusters with 27, the highest crash total (1043), and is the longest route
- CR 689 had the highest total crashes of a single cluster with 91

Gloucester County has eighty-four (84) 600 series county routes and eight (8) 700 series routes. Combined, the ninety-two routes total 303 miles. During the three-year analysis period 51 clusters accounting for 1,422 crashes were identified on 17 of the 92 six and seven hundred series county routes. Number of clusters per route ranged from 1 to 11. Observations about the Gloucester County clusters:

- Gloucester County had the fewest clusters among the counties, and the fewest routes where clusters were identified
- CR 654 had the highest number of clusters with 11, and the highest crash total (450)
- CR 630 had the highest and second highest total crashes per cluster with 66 and 57

Mercer County has forty-seven (47) 600 series county routes totaling 85 miles. The county has no 700 series routes. During the three-year analysis period 101 clusters accounting for 3,095 crashes were identified on 18 of the 47 six hundred series county routes. Number of clusters per route ranged from 1 to 24. Observations about the Mercer County clusters:

- Mercer County has the fewest county routes among the counties, the second highest number of clusters (101), and the second lowest number of routes where clusters were identified (18, compared to Gloucester County's 17)
- CR 622 had the highest number of clusters with 24, and the highest crash total (981), and is the longest route at 6.33 miles
- CR 606 claimed the highest and second highest total crashes per cluster with 89 and 81

Top Six 500, 600, and 700 Series Route Clusters By County

TABLE 11 shows the top six crash clusters, by county, on 500, 600 and 700 routes. No 700 routes made the top six list most likely due to their shorter average length and lower overall crash totals in comparison to the 500 and 600 series routes. A top six cluster total was chosen over top five due to ties in cluster totals in Burlington and Mercer Counties. The full list of clusters by county can be found in the accompanying spreadsheets and GIS shape files.

TABLE 11

Top Six County Route Clusters By County

Crash Data: 2002 - 2004

ROUTE	ROUTE NAME	MUNICIPALITY	STARTYEAR	ENDYEAR	STARTMP	ENDMP	CRASHES	INTERSECTING STREET(S)	MP	* Property Damage Only				
										SIGNAL	FATALS	INJURIES	*PDO	PED
CAMDEN COUNTY														
534	Blackwood-Clementon Rd.	Gloucester Twp.	2002	2004	4.35	4.45	135	NJ 42	4.45	no	0	35	100	0
								Erial Road	4.4	no				
								State Street	4.37	no				
534	Blackwood-Clementon Rd.	Gloucester Twp.	2002	2004	6.09	6.19	114	CR 673 Laurel Ave.	6.15	yes	0	35	101	0
689	Cross Keys Rd.	Winslow Twp.	2002	2004	0.56	0.66	91	Wilby Rd.	0.59	no	0	36	55	0
								Atlantic City Expressway	0.62	yes				
544	Clements Bridge Rd.	Cherry Hill Twp.	2002	2004	8.07	8.17	90	CR 673 Springdale Rd.	8.12	yes	0	34	56	0
561	Haddonfield-Berlin Rd.	Cherry Hill Twp.	2002	2004	43.32	43.42	83	CR 670 Burnt Mill Rd.	43.38	yes	0	22	61	2
689	Cross Keys Rd.	Winslow Twp.	2002	2004	0.97	1.07	72	CR 705 Sicklerville Rd.	1.07	yes	0	28	44	0
BURLINGTON COUNTY														
541	Burlington-Mt. Holly Rd.	Burlington Twp.	2002	2004	21.87	21.97	89	CR 541-T Burlington By-Pass	21.88	no	0	26	63	0
								Cadillac Rd.	21.97	yes				
607	Church Street	Mt. Laurel Twp.	2002	2004	4.07	4.17	78	CR 612 Elbo Lane	4.11	yes	0	26	52	0
								Gaither Dr.	4.22	yes				
								Pleasant Valley Ave.	4.27	no				
620	Tuckerton Rd.	Medford Twp.	2002	2004	4.69	4.79	70	CR 623 Taunton Blvd.	4.75	yes	0	19	51	0
630	Woodlane Rd.	Westampton Twp.	2002	2004	8.09	8.19	66	CR 541	8.18	yes	0	14	50	0
541	Mt. Holly Rd.	Burlington Twp.	2002	2004	23.01	23.11	55	CR 635 Rancocas Ave.	23.02	yes	0	21	34	0
								Manhan Rd.	23.08	no				
								12th St.	23.11	no				
530	Pemberton-Browns Mills Rd.	Pemberton Twp.	2002	2004	8.74	8.84	55	CR 545 Trenton Rd.	8.78	yes	0	14	41	1
GLOUCESTER COUNTY														
544	Clements Bridge Rd.	Deptford Twp.	2002	2004	1.49	1.59	73	NJ 42 Interchange	1.49 - 1.59	no	0	14	59	0
555	Tuckahoe Rd.	Monroe Twp.	2002	2004	32.95	33.05	68	CR 689 Cross Keys-Berlin Rd.	33.05	yes	0	29	39	0
								CR 654 Hurfville-Cross Keys Rd.	33.05	yes				
630	Egg Harbor Rd.	Deptford Twp.	2002	2004	4.00	4.10	66	CR 603 Barnsboro Rd.	4.04	no	0	22	44	0
								NJ 47 Delsea Dr.	4.1	yes				
630	Egg Harbor Rd.	Washington Twp.	2002	2004	1.38	1.48	57	Greenwood Dr.	1.34	no	1	19	38	0
								CR 651 Greentree Rd.	1.45	yes				
689	Cross Keys By-Pass	Washington Twp.	2002	2004	4.19	4.29	54	none			0	22	32	0
654	Hurfville-Cross Keys Rd.	Washington Twp.	2002	2004	5.53	5.63	49	CR 639 Ganttown Rd.	5.63	yes	0	20	29	0
MERCER COUNTY														
533	Quakerbridge Rd.	W. Windsor Twp.	2002	2004	7.42	7.52	97	CR 638 Grovers Mill Rd.	7.52	yes	0	22	75	0
606	Hamilton Ave.	Trenton City	2002	2004	0.80	0.90	89	North Anderson	0.8	no	0	14	74	3
								Franklin St.	0.85	no				
								CR 626 Chambers St.	0.9	yes				
606	Hamilton Ave.	Trenton City	2002	2004	0.51	0.61	81	Whitaker St.	0.51	no	0	35	45	1
								Chestnut Ave.	0.61	yes				
533	Quakerbridge Rd.	Hamilton Twp.	2002	2004	4.3	4.4	74	Brookwood Rd.	4.3	no	0	31	43	1
								Sloane Ave./Flock Ave.	4.39	yes				
533	Quakerbridge Rd.	Hamilton Twp.	2002	2004	5.5	5.6	72	Young's Rd.	5.56	yes	0	29	43	0
622	North Olden Ave. Extension	Ewing Twp.	2002	2004	5.26	5.36	72	CR 636 Parkside Ave.	5.32	yes	0	27	45	1

SOURCE: NJDOT, 2005

4.4.2 500 Route Clusters

Summary

The DVRPC region is served by thirty-eight (38) 500 series county routes totaling 465 miles over the four counties—Burlington, Camden, Gloucester, and Mercer. Unlike 600 and 700 series routes, 500 series county routes are inter-county facilities that typically connect adjacent counties. A total of two hundred seventy-nine (279) clusters of 15 or more crashes, over 1/10th mile, were identified on twenty-four (24) of the thirty-eight 500 series routes combined. No clusters were identified on 14 of the 500 series county routes.

The number of clusters identified on a given route ranged between 1 and 33. The following observations were made from the 500 series cluster analysis:

- Of the 24 routes where clusters were identified 13 had fewer than 10 clusters
- Overall, length of a given route did not correspond positively with number of clusters
- Number of identified clusters did correspond positively with total crashes
- Of the 17 routes that are less than 10 miles in length, the highest number of identified clusters was 6

TABLE 12 shows the highest cluster per route for every 500 series route.

Most Clusters – CR 537

County Route 537 had the greatest number of identified crash clusters at 33 accounting for 848 crashes (59 percent) of the 1,427 total crashes during the analysis period. This route is also the longest of the 500 series routes in the region at 33 miles and it experienced the highest crash total.

The highest total among the CR 537 clusters is 58 crashes, the lowest is 15. The cluster totals breakdown as follows:

- Twenty-three clusters had between 15 and 29 crashes
- Seven clusters had between 30 and 44 crashes
- Three clusters had between 45 and 59 crashes

The predominant collision type along CR 537 was rear-end crashes accounting for 31 percent of the total. This route was the location of 23 bicycle and 19 pedestrian crashes. Seven fatal crashes were recorded on this facility—second highest total among the 500 series routes—489 injury and 931 property damage only crashes.

Serving DVRPC Region counties of Burlington and Camden, as well as Monmouth County, CR 537 is a multi-purpose route that moves both local and regional traffic. Predominantly two-lanes, except for locations where it intersects a higher level facility, CR 537 has a varying speed limit of 25 – 50 mph over the 12 municipalities that it traverses. Traffic volumes in the central and eastern sections of the corridor of between 7,000 and 11,000 AADT were available from the NJ Straight Line Diagram.

Single Cluster With Highest Crash Total – CR 534, MP 4.35 – 4.45

Known locally as East Church Road in Gloucester Township, Camden County, this section of CR 534 is a two-lane road classified as an urban principal arterial. It has a varying posted speed limit of between 35 and 40 mph. At the cluster location (MP 4.35 – 4.45) CR 534 meets state route NJ 42/North-South Freeway at a partial interchange (NJ 42 NB on-ramp, and NJ 42 SB off-ramp, only). One hundred thirty-six (136) crashes were recorded on this 1/10th mile stretch from 2002 to 2004. An AADT of 25,000 (2004) was recorded along this stretch of CR 534. An AADT of 118,000 (2004) was recorded along this stretch of NJ 42 according to the NJDOT Straight Line Diagram.

The following highlights were taken from the cluster summary:

- The most predominant collision type was rear-end crashes at 75 percent (102), followed by angle crashes at 8 percent (12)
- 72 percent (99) of the crashes were coded as at intersection
- No fatalities, 35 injury (25 percent), and 101 (74.3 percent) property damage only crashes
- 111 (81 percent) crashes occurred under dry surface condition

TABLE 12

500 Series Routes							
Highest Cluster per Route							
ROUTE	COUNTY	MUNICIPALITY	STARTYEAR	ENDYEAR	START MP	END MP	TOTAL CRASHES
518	MERCER	HOPEWELL BOROUGH	2002	2004	10.3	10.4	19
524	MERCER	HAMILTON TOWNSHIP	2002	2004	1.36	1.46	29
526	MERCER	WEST WINDSOR TOWNSHIP	2002	2004	3.36	3.46	32
526	MERCER	WEST WINDSOR TOWNSHIP	2002	2004	3.56	3.66	32
530	BURLINGTON	PEMBERTON TOWNSHIP	2002	2004	8.74	8.84	55
533	MERCER	WEST WINDSOR TOWNSHIP	2002	2004	7.42	7.52	97
534	CAMDEN	GLOUCESTER TOWNSHIP	2002	2004	4.35	4.45	136
535	MERCER	EAST WINDSOR TOWNSHIP	2002	2004	10.98	11.08	53
537	CAMDEN	CAMDEN CITY	2002	2004	2	2.1	58
538	GLOUCESTER	SOUTH HARRISON TOWNSHIP	2002	2004	5.19	5.29	35
541	BURLINGTON	BURLINGTON TOWNSHIP	2002	2004	21.87	21.97	89
543	CAMDEN	CAMDEN CITY	2002	2004	0.9	1	40
544	CAMDEN	CHERRY HILL TOWNSHIP	2002	2004	8.07	8.17	90
545	BURLINGTON	BORDENTOWN TOWNSHIP	2002	2004	12.54	12.64	16
546	MERCER	HOPEWELL TOWNSHIP	2002	2004	4.59	4.69	55
551	CAMDEN	CAMDEN CITY	2002	2004	34.22	34.32	46
553	GLOUCESTER	MANTUA TOWNSHIP	2002	2004	43.71	43.81	42
555	GLOUCESTER	MONROE TOWNSHIP	2002	2004	32.95	33.05	68
561	CAMDEN	CHERRY HILL TOWNSHIP	2002	2004	43.32	43.42	83
571	MERCER	EAST WINDSOR TOWNSHIP	2002	2004	35.28	35.38	62
579	MERCER	HOPEWELL TOWNSHIP	2002	2004	4.24	4.34	29
536 Spur	CAMDEN	WINSLOW TOWNSHIP	2002	2004	3.03	3.13	42
537 Spur	CAMDEN	CAMDEN CITY	2002	2004	0.21	0.31	20
551 Spur	CAMDEN	MOUNT EPHRAIM BOROUGH	2002	2004	1.64	1.74	26
553 Alt	GLOUCESTER	MANTUA TOWNSHIP	2002	2004	3.71	3.81	16

SOURCE: NJDOT, 2005

4.4.3 State Route Clusters

Summary

The DVRPC region's four New Jersey counties are served by twenty-five (25) New Jersey state routes totaling 262 miles. These routes are higher functioning, inter-county facilities, classified as either arterials (minor or principal) or expressways and are intended to move traffic regionally. State routes are maintained by the New Jersey Department of Transportation.

A total of four hundred (400) clusters of 15 or more crashes, over 1/10th mile, were identified on 20 state routes combined. No clusters were identified on the remaining five state routes, they are: NJ 77, NJ 90, NJ 133, NJ 175 and NJ 324. The total number of clusters identified on a given route ranged between 1 and 56. Some observations about the state route cluster analysis are as follows:

- Of the 20 routes where clusters were identified 9 had more than 20, and 10 routes had fewer than 10 clusters
- Overall, length of a given route did not correspond strongly with number of clusters
- Number of identified clusters corresponded positively with total crashes
- Of the 13 routes that are less than 10 miles in length, the highest number of identified clusters was 7

TABLE 13 shows the highest cluster per route for every state route.

Most Clusters – NJ 73

NJ 73 had the greatest number of identified crash clusters at 56, accounting for 2,074 crashes or 73 percent of the 2,846 total crashes recorded during the study period. This route is a divided urban principal arterial that traverses Camden and Burlington counties with a typical cross section of four lanes, carrying AADTs in the 15,000 to 30,000 range. NJ 73 had the second highest number of crashes on a state route during the analysis period and is the second longest state route in the region at 30 miles.

The highest total number of crashes among the NJ 73 clusters is 124 crashes, the lowest is 15. The cluster totals breakdown as follows:

- Thirty-one clusters had between 15 and 29 crashes
- Ten clusters had between 30 and 44 crashes
- Seven clusters had between 45 and 59 crashes
- Four clusters had between 60 and 74 crashes
- Four clusters were between 115 and 124 crashes

NJ 73 had 10 fatal crashes—highest among the state routes—1016 injury and 1820 property damage only crashes. In addition, NJ 73 has a significantly high percentage of rear-end crashes (56 percent). The next highest collision type category was same direction rear-end crashes accounting for 14 percent.

Single Cluster With Highest Crash Total – NJ 70, MP 8.3 – 8.4

NJ 70 connects the Ben Franklin Bridge (via US 30 Admiral Wilson Boulevard) in Camden County with the Jersey shore towns of Ocean County. The cluster with the highest total crashes is located on NJ 70 where it meets NJ 73 at the Marlton Circle—a modified traffic circle slated for reconstruction into a grade separated interchange. Two hundred forty-seven (247) crashes were recorded on this 1/10th mile stretch from 2002 to 2004. This intersection is the nexus of two, four-lane urban principal arterials. The circle has been modified to accommodate NJ 73 through traffic which cuts across the circle. Due to this change the circle/intersection was signalized. According to the New Jersey Straight Line Diagram, traffic volumes are in the 30,000 – 50,000 AADT range for each of these facilities in the vicinity of the circle.

The following highlights were taken from the cluster summary:

- Most predominant collision type was sideswipe crashes at 46 percent (114), followed by rear-end crashes at 36 percent (89)
- No fatalities, 37 injury (15 percent), and 210 (85 percent) property damage only crashes
- 196 (80 percent) crashes occurred under dry surface condition

TABLE 13

State Route Series							
Highest Cluster per Route							
ROUTE	COUNTY	MUNICIPALITY	STARTYEAR	ENDYEAR	START MP	END MP	TOTAL CRASHES
NJ 27	MERCER	PRINCETON BORO	2002	2004	0.01	0.11	51
NJ 29	MERCER	TRENTON CITY	2002	2004	4.3	4.4	119
NJ 31	MERCER	EWING TWP	2002	2004	1.72	1.82	42
NJ 33	MERCER	HAMILTON TWP	2002	2004	2.8	2.9	63
NJ 38	CAMDEN	CHERRY HILL TWP	2002	2004	3.82	3.92	139
NJ 41	CAMDEN	CHERRY HILL TWP	2002	2004	10.81	10.91	87
NJ 42	CAMDEN	BELLMAWR BORO	2002	2004	13.9	14	151
NJ 44	GLOUCESTER	GREENWICH TWP	2002	2004	5.18	5.28	17
NJ 45	GLOUCESTER	WOODBURY CITY	2002	2004	26.21	26.31	82
NJ 47	GLOUCESTER	DEPTFORD TWP	2002	2004	68.27	68.37	45
NJ 64	MERCER	WEST WINDSOR TWP	2002	2004	0.29	0.39	29
NJ 68	BURLINGTON	MANSFIELD TWP	2002	2004	7.93	8.03	44
NJ 70	BURLINGTON	EVESHAM TWP	2002	2004	8.3	8.4	247
NJ 72	BURLINGTON	WOODLAND TWP	2002	2004	1	1.1	23
NJ 73	BURLINGTON	MOUNT LAUREL TWP	2002	2004	26.47	26.57	124
NJ 129	MERCER	TRENTON CITY	2002	2004	2.1	2.2	67
NJ 154	CAMDEN	CHERRY HILL TWP	2002	2004	0.21	0.31	59
NJ 156	MERCER	HAMILTON TWP	2002	2004	0.49	0.59	18
NJ 168	CAMDEN	BELLMAWR BORO	2002	2004	6.75	6.85	75
NJ 413	BURLINGTON	BURLINGTON CITY	2002	2004	0.73	0.83	33

SOURCE: NJDOT, 2005

4.4.4 Interstate Route Clusters

Summary

The DVRPC region's four New Jersey counties are served by five (5) interstate routes totaling 84 miles. These routes are multi-lane facilities that carry traffic throughout the state and connect New Jersey with neighboring states. These roads are limited access expressways classified as urban interstates and are maintained by the New Jersey Department of Transportation. It must be noted that all crash analyses on interstate routes reflects total crashes of the combined directions. Directional analysis was not possible due to the data structure.

A total of one hundred fifty five (155) clusters of 15 or more crashes, over 1/10th mile, were identified on the interstate routes combined. The total number of clusters identified on a given route ranged between 9 and 97. Some observations about the interstate route cluster analysis are as follows:

- Total length of a given route corresponded positively with number of identified clusters
- Number of identified clusters corresponded positively with total crashes, but not in the case of I-76 (high crash total but relatively low number of clusters)

Most Clusters – I-295

I-295 had the greatest number of identified crash clusters at 97, accounting for 4,046 crashes or 66 percent of the route total for the analysis period. This route is a divided urban principal arterial that traverses Gloucester, Camden and Burlington Counties with a typical cross section of four to six lanes, carrying AADTs as high as 120,000 through the more urbanized areas where it interchanges with other interstate facilities. I-295 had 6,102 total crashes, the highest number of crashes on an interstate route during the analysis period. This route is also the longest interstate route in the region at 59 miles.

The highest total number of crashes among the I-295 clusters is 268 crashes, the lowest is 15. The cluster totals breakdown as follows:

- Fifty-four clusters had between 15 and 29 crashes
- Eighteen clusters had between 30 and 44 crashes
- Four clusters had between 45 and 59 crashes
- Nine clusters had between 60 and 74 crashes
- Five clusters were between 75 and 89 crashes
- Five clusters were between 96 and 138 crashes
- The two highest clusters had 250 and 268 crashes

I-295 had 19 fatal crashes—highest among the interstate routes—1,441 injury, and 4,624 property damage only crashes. The highest collision type category was same direction rear-end crashes accounting for 35 percent (2,161). I-295 also has a significantly high percentage of hit-fixed object crashes (30 percent).

Single Cluster With Highest Crash Total – I-76, MP 0.2 - 0.3

I-76 connects Philadelphia to Camden County via the Walt Whitman Bridge. The cluster with the highest total crashes was identified within milepost 0.2 to 0.3 which is located on I-76 within the interchange of I-76, I-295, and NJ 42. This is the nexus of three multi-lane urban interstates/freeways, and the site of extended recurring peak hour congestion (northbound in the A.M., southbound in the P.M.) Three hundred sixty-three crashes were attributed to this 1/10th mile section. The New Jersey Department of Transportation has developed improvement alternatives to address missing linkages between the routes, as well as congestion and crash frequency. According to the New Jersey Straight Line Diagram, a traffic volume of 179,000 AADT was recorded on this portion of the facility during 2005.

The following highlights were taken from the cluster summary:

- The most predominant collision type was hit-fixed object crashes at 41 percent (149), followed by rear-end crashes at 35 percent (126)
- No fatalities, 86 injury (24 percent) and 276 (76 percent) property damage only crashes
- 71 percent crashes occurred during daylight time

TABLE 14 shows the highest cluster per route for each interstate route.

TABLE 14

Interstate Route Series							
Highest Cluster per Route							
ROUTE	COUNTY	MUNICIPALITY	STARTYEAR	ENDYEAR	START MP	END MP	TOTAL CRASHES
I-76	CAMDEN	BELLMAWR BORO	2002	2004	0.2	0.3	363
I-95	MERCER	EWING TWP	2002	2004	0.2	0.3	67
I-195	MERCER	HAMILTON TWP	2002	2004	4.9	5	38
I-295	CAMDEN	BELLMAWR BORO	2002	2004	27.1	27.2	268
I-676	CAMDEN	CAMDEN CITY	2002	2004	0.3	0.4	58

SOURCE: NJDOT, 2005

4.4.5 Toll Route Clusters

Summary

The DVRPC region's four New Jersey counties are served by three (3) toll routes totaling 89 miles. These routes are higher functioning, inter-county facilities, classified as urban freeway/expressway and are intended to move traffic regionally. Toll routes are maintained by specially created authorities.

A total of one hundred nine (109) clusters of 15 or more crashes, over 1/10th mile, were identified on the three toll routes combined. The total number of clusters identified on a given route ranged between 5 and 99. Some observations about the toll route cluster analysis are as follows:

- The New Jersey Turnpike, longest of the three routes, had 99 clusters, the other routes had 5 each
- Overall, total length of a route corresponded strongly with number of clusters
- Number of clusters corresponded positively with total crashes

Most Clusters – New Jersey Turnpike

The New Jersey Turnpike (NJTPK) had the greatest number of identified crash clusters at 99 accounting for 2,728 crashes or 57 percent of the route total. This route is a divided urban freeway/expressway that traverses all four of DVRPC's New Jersey counties with a typical cross section of four to six lanes, carrying AADTs as high as 80,000 through the more urbanized areas. NJTPK had 4,756 total crashes, the highest number of crashes on a toll route during the analysis period. This route is also the longest toll route in the New Jersey portion of the region at 67 miles.

The highest total number of crashes among the 99 NJTPK clusters is 142 crashes, the lowest is 15. The breakdown of cluster totals is as follows:

- Forty-nine clusters had between 15 and 20 crashes
- Forty-one clusters had between 21 and 41 crashes
- Seven highest clusters had 44 and 97 crashes
- The two highest cluster totals were 138, and 142 crashes

Corridor-wide, NJTPK had 9 fatal crashes—highest among the toll routes—479 injury and 1,591 property damage only crashes. The highest collision type category was fixed object crashes accounting for 32 percent (660).

Single Cluster With Highest Crash Total – New Jersey Turnpike, MP 15.1 – 15.2

The cluster with highest total crashes among the toll routes was found on the New Jersey Turnpike (NJTPK). One hundred forty-two (142) crashes were identified between MP 15.1 and 15.2, which is located in the immediate vicinity of NJTPK interchange 7A with I-195 in Washington Township, Mercer County. At this location the turnpike has a six-lane cross.

The following highlights were taken from the cluster summary:

- The most predominant collision type was fixed object crashes at 32 percent (45), followed by sideswipe crashes at 23 percent (32)
- No fatalities, 18 injury and 124 property damage only crashes
- 76 percent of the crashes occurred during daylight hours, 27 at night

TABLE 15 shows the highest cluster per route for each toll route.

TABLE 15

Toll Route Series							
Highest Cluster per Route							
ROUTE	COUNTY	MUNICIPALITY	STARTYEAR	ENDYEAR	START MP	END MP	TOTAL CRASHES
Garden State Parkway	BURLINGTON	BASS RIVER TWP	2002	2004	53.5	53.6	54
Atlantic City Expressway	GLOUCESTER	WASHINGTON TWP	2002	2004	43.8	43.9	40
NJ Turnpike	MERCER	ROBBINSVILLE TWP	2002	2004	15.1	15.2	142

SOURCE: NJDOT, 2005

4.4.6 US Route Clusters

Summary

The DVRPC region's four New Jersey counties are served by eight (8) US Routes totaling 201 miles. These routes serve a variety of functions from multi-lane expressways to local main streets and are classified typically as arterials (minor or principal). US Routes are maintained by the New Jersey Department of Transportation.

A total of three hundred sixteen (316) clusters of 15 or more crashes, over 1/10th mile, were identified on 7 of the 8 US routes combined. No clusters were identified on US Route 9. The total number of clusters identified on a given route ranged between 4 and 95. Some observations about the US route cluster analysis are as follows:

- Of the 7 routes where clusters were identified only two routes had less than 10 clusters, the rest had between 29 and 95
- Overall, length of a given route corresponded strongly with number of clusters
- Number of identified clusters corresponded positively with total crashes

Most Clusters – US 130

US 130 had the greatest number of identified crash clusters at 95 accounting for 4,093 crashes or 78 percent of the route total. This route is a divided urban principal arterial that traverses all four of DVRPC's New Jersey counties with a typical cross section of four to six lanes, carrying AADT volumes in the 20,000 to 45,000 range. US 130 had 5,234 total crashes, the highest number of crashes on a US route during the analysis period. This route is also the longest US route in the region at 61 miles.

The highest total number of crashes among the US 130 clusters is 144 crashes, the lowest is 15. The cluster totals breakdown as follows:

- Forty clusters had between 15 and 29 crashes
- Twenty-four clusters had between 30 and 44 crashes
- Thirteen clusters had between 45 and 59 crashes
- Five clusters had between 60 and 74 crashes
- Six clusters were between 115 and 124 crashes
- Seven clusters were between 90 and 144 crashes

US 130 was the highest in all crash severity categories among the US routes—23 fatal, 1,658 injury and 3,553 property damage only crashes. In addition, US 130 had a significantly high percentage of rear-end crashes (40 percent). The next highest collision type category was sideswipe crashes accounting for 25 percent.

Single Cluster With Highest Crash Total – US 1, MP 11.17 – 11.27

US Route 1 proper is a freeway with frequent interchanges that traverses approximately 12 miles of the DVRPC region through Mercer County including the City of Trenton, Lawrence Township and West Windsor Township. At the location of the cluster (MP

11.17 – 11.27) the facility carries six lanes and is divided. A traffic volume of 73,000 AADT (SLD 2004) was recorded along this stretch of the corridor.

The following highlights were taken from the cluster summary:

- The most predominant collision type was rear-end crashes at 59 percent (138), sideswipe crashes were second at 25 percent (59)
- No fatals, 46 injury (20 percent) and 188 (80 percent) property damage only crashes
- 91 percent (213) crashes occurred at intersection
- 32 percent (74) of the crashes occurred under wet surface condition

TABLE 16 shows the highest cluster per route for each US route.

TABLE 16

US Route Series							
Highest Cluster per Route							
ROUTE	COUNTY	MUNICIPALITY	STARTYEAR	ENDYEAR	START MP	END MP	TOTAL CRASHES
US 1	MERCER	WEST WINDSOR TWP	2002	2004	11.17	11.27	234
US 1B	MERCER	TRENTON CITY	2002	2004	0.4	0.5	58
US 30	CAMDEN	CLEMENTON BORO	2002	2004	13.52	13.62	159
US 40	GLOUCESTER	FRANKLIN TWP	2002	2004	26.69	26.79	61
US 130	CAMDEN	GLOUCESTER CITY	2002	2004	26.86	26.96	144
US 206	MERCER	HAMILTON TWP	2002	2004	38.81	38.91	118
US 322	GLOUCESTER	MONROE TWP	2002	2004	24.15	24.25	43

SOURCE: NJDOT, 2005

4.4.7 Top 100 Crash Clusters in the New Jersey Region, All Roads

Summary

The following table lists the top 100 clusters according to highest total crashes of all clusters identified in this analysis, regardless of route type, number of lanes, or functional class. The purpose of this table is to create a benchmark of high priority crash locations for future monitoring.

This top 100 list was drawn from the 1,692 crash clusters of 15 or more crashes over 1/10th mile identified on the 478 unique routes that comprise the roadway system of DVRPC's four New Jersey counties—excluding local and private property facilities. Although this list is dominated by state, interstate, and US routes, a small number of 500 and 600 series county routes also made the list (no 700 series routes made the list). The top 100 cluster totals range from 71 to 363 crashes. **TABLE 17** below shows a breakdown of clusters sorted in descending order by total.

TABLE 17

**Top 100 Crash Clusters in the New Jersey Region
All Routes (County, State, Interstate, Toll, and US)**

#	ROUTE	COUNTY	MUNICIPALITY	STARTYEAR	ENDYEAR	START MP	END MP	TOTAL CRASHES
1	I-76	Camden	Mount Ephraim Boro	2002	2004	0.2	0.3	363
2	I-295	Camden	Bellmawr Boro	2002	2004	27.1	27.2	268
3	I-295	Camden	Bellmawr Boro	2002	2004	26.9	27	250
4	NJ 70	Burlington	Evesham Twp	2002	2004	8.3	8.4	247
5	US 1	Mercer	West Windsor Twp	2002	2004	11.17	11.27	234
6	US 1	Mercer	West Windsor Twp	2002	2004	8.4	8.5	221
7	I-76	Camden	Bellmawr Boro	2002	2004	0	0.1	183
8	I-76	Camden	Gloucester City	2002	2004	1.7	1.8	168
9	US 30	Camden	Clementon Boro	2002	2004	13.52	13.62	159
10	NJ 42	Camden	Bellmawr Boro	2002	2004	13.9	14	151
11	US 130	Camden	Gloucester City	2002	2004	26.86	26.96	144
12	I-95	Mercer	Robbinsville Twp	2002	2004	15.1	15.2	142
13	US 30	Camden	Magnolia Boro	2002	2004	9.61	9.71	141
14	NJ 38	Camden	Cherry Hill Twp	2002	2004	3.82	3.92	139
15	I-95	Mercer	Robbinsville Twp	2002	2004	14.65	14.75	138
16	I-295	Burlington	Mount Laurel Twp	2002	2004	36.8	36.9	138
17	CR 534	Camden	Gloucester Twp	2002	2004	4.35	4.45	136
18	US 130	Burlington	Burlington City	2002	2004	46.28	46.38	133
19	US 30	Camden	Camden City	2002	2004	2.39	2.49	128
20	I-76	Camden	Gloucester City	2002	2004	0.5	0.6	126
21	US 1	Mercer	Lawrence Twp	2002	2004	5.9	6	125
22	US 30	Camden	Pennsauken Twp	2002	2004	3.43	3.53	124
23	NJ 73	Burlington	Mount Laurel Twp	2002	2004	26.47	26.57	124
24	US 130	Burlington	Burlington City	2002	2004	46.14	46.24	123
25	NJ 73	Burlington	Evesham Twp	2002	2004	24.1	24.2	120
26	US 130	Camden	Pennsauken Twp	2002	2004	30.97	31.07	120
27	NJ 29	Mercer	Trenton City	2002	2004	4.3	4.4	119
28	US 1	Mercer	Lawrence Twp	2002	2004	7.5	7.6	118
29	NJ 73	Burlington	Mount Laurel Twp	2002	2004	27.25	27.35	118
30	US 206	Mercer	Hamilton Twp	2002	2004	38.81	38.91	118
31	US 1	Mercer	West Windsor Twp	2002	2004	8.06	8.16	117
32	US 30	Camden	Pennsauken Twp	2002	2004	3.05	3.15	116
33	US 1	Mercer	West Windsor Twp	2002	2004	10	10.1	115
34	NJ 73	Burlington	Maple Shade Twp	2002	2004	27.91	28.01	115

SOURCE: NJDOT, 2005

TABLE 17 (continued)

Top 100 Crash Clusters in the New Jersey Region								
All Routes (County, State, Interstate, Toll, and US)								
#	ROUTE	COUNTY	MUNICIPALITY	STARTYEAR	ENDYEAR	START MP	END MP	TOTAL CRASHES
35	I-295	Camden	Bellmawr Boro	2002	2004	28	28.1	115
36	CR 534	Camden	Gloucester Twp	2002	2004	6.09	6.19	114
37	I-76	Camden	Gloucester City	2002	2004	0.9	1	113
38	US 130	Burlington	Cinnaminson Twp	2002	2004	36	36.1	112
39	US 1	Mercer	West Windsor Twp	2002	2004	11.73	11.83	111
40	US 1	Mercer	West Windsor Twp	2002	2004	9.98	10.08	109
41	NJ 42	Gloucester	Deptford Twp	2002	2004	11.9	12	109
42	US 130	Camden	Brooklawn Boro	2002	2004	25.68	25.78	109
43	US 1	Mercer	Trenton City	2002	2004	1.3	1.4	108
44	US 130	Burlington	Burlington City	2002	2004	46.39	46.49	108
45	NJ 70	Camden	Cherry Hill Twp	2002	2004	5.26	5.36	106
46	I-76	Camden	Gloucester City	2002	2004	0.7	0.8	106
47	US 30	Camden	Camden City	2002	2004	1.58	1.68	105
48	I-295	Camden	Bellmawr Boro	2002	2004	27.4	27.5	105
49	I-295	Camden	Cherry Hill Twp	2002	2004	34.7	34.8	102
50	NJ 42	Camden	Gloucester Twp	2002	2004	8.8	8.9	99
51	CR 533	Mercer	West Windsor Twp	2002	2004	7.42	7.52	97
52	NJTPK	Burlington	Mount Laurel Twp	2002	2004	34.4	34.5	97
53	I-295	Camden	Cherry Hill Twp	2002	2004	32	32.1	96
54	NJ 42	Camden	Bellmawr Boro	2002	2004	13.4	13.5	95
55	US 30	Camden	Magnolia Boro	2002	2004	9.2	9.3	91
56	CR 689	Camden	Winslow Twp	2002	2004	0.56	0.66	91
57	NJ 38	Burlington	Mount Holly Twp	2002	2004	16.43	16.53	90
58	CR 544	Camden	Cherry Hill Twp	2002	2004	8.07	8.17	90
59	US 130	Burlington	Delran Twp	2002	2004	39.48	39.58	89
60	CR 541	Burlington	Burlington Twp	2002	2004	21.87	21.97	89
61	CR 606	Mercer	Trenton City	2002	2004	0.8	0.9	89
62	NJTPK	Camden	Runnemede Boro	2002	2004	26	26.1	88
63	NJ 41	Camden	Cherry Hill Twp	2002	2004	10.81	10.91	87
64	NJ 42	Camden	Bellmawr Boro	2002	2004	13.6	13.7	86
65	US 130	Camden	Camden City	2002	2004	28.33	28.43	86
66	US 1	Mercer	Trenton City	2002	2004	0.84	0.94	85
67	NJ 70	Camden	Cherry Hill Twp	2002	2004	5.03	5.13	85
68	NJ 38	Burlington	Maple Shade Twp	2002	2004	6.05	6.15	84

SOURCE: NJDOT, 2005

TABLE 17 (continued)

Top 100 Crash Clusters in the New Jersey Region								
All Routes (County, State, Interstate, Toll, and US)								
#	ROUTE	COUNTY	MUNICIPALITY	STARTYEAR	ENDYEAR	START MP	END MP	TOTAL CRASHES
69	I-295	Camden	Cherry Hill Twp	2002	2004	34.9	35	83
70	CR 561	Camden	Cherry Hill Twp	2002	2004	43.32	43.42	83
71	NJ 45	Gloucester	Woodbury City	2002	2004	26.21	26.31	82
72	I-295	Camden	Bellmawr Boro	2002	2004	26.5	26.6	81
73	I-295	Camden	Cherry Hill Twp	2002	2004	33.9	34	81
74	CR 606	Mercer	Trenton City	2002	2004	0.51	0.61	81
75	US 130	Burlington	Burlington City	2002	2004	47.08	47.18	80
76	NJ 70	Camden	Cherry Hill Twp	2002	2004	5.67	5.77	79
77	US 130	Camden	Pennsauken Twp	2002	2004	34.04	34.14	79
78	I-295	Burlington	Mount Laurel Twp	2002	2004	40.5	40.6	79
79	CR 607	Burlington	Mount Laurel Twp	2002	2004	4.072	4.162	78
80	NJ 42	Camden	Bellmawr Boro	2002	2004	14.1	14.2	77
81	NJ 70	Camden	Cherry Hill Twp	2002	2004	6.86	6.96	77
82	US 30	Camden	Somerdale Boro	2002	2004	10.65	10.75	76
83	NJ 70	Camden	Cherry Hill Twp	2002	2004	4.58	4.68	76
84	US 130	Camden	Pennsauken Twp	2002	2004	32.37	32.47	75
85	US 130	Burlington	Burlington City	2002	2004	45.49	45.59	75
86	NJ 168	Camden	Bellmawr Boro	2002	2004	6.75	6.85	75
87	I-295	Camden	Barrington Boro	2002	2004	29.9	30	75
88	NJ 70	Camden	Cherry Hill Twp	2002	2004	3.61	3.71	74
89	US 206	Mercer	Trenton City	2002	2004	41.13	41.23	74
90	CR 533	Mercer	Hamilton Twp	2002	2004	4.3	4.4	74
91	NJ 42	Camden	Gloucester Twp	2002	2004	10	10.1	73
92	NJ 70	Camden	Cherry Hill Twp	2002	2004	2.24	2.34	73
93	CR 544	Gloucester	Deptford Twp	2002	2004	1.49	1.59	73
94	NJ 70	Camden	Cherry Hill Twp	2002	2004	5.52	5.62	72
95	I-295	Camden	Haddon Heights Boro	2002	2004	28.4	28.5	72
96	I-295	Camden	Bellmawr Boro	2002	2004	27.6	27.7	72
97	CR 533	Mercer	Hamilton Twp	2002	2004	5.5	5.6	72
98	CR 689	Camden	Winslow Twp	2002	2004	0.97	1.07	72
99	CR 622	Mercer	Ewing Twp	2002	2004	5.26	5.36	72
100	I-295	Camden	Haddon Heights Boro	2002	2004	29.3	29.4	71

SOURCE: NJDOT, 2005

APPLICATIONS

The data analysis presented in this report, as well as the spreadsheets and geographic information system (GIS) files, are intended for use by the planners and engineers working in the New Jersey portion of the DVRPC region. We hope this analysis will support existing safety work, or provide a starting point for those planning partners seeking to conduct their own safety analysis.

The report provides a summary and highlights, while the accompanying files are meant to be used interactively. In particular, the crash cluster GIS files can be utilized as an additional layer of data when prioritizing roadway projects, and can provide another data layer when used in tandem with existing management system data. The clusters identified in this report can also be used with newer crash data to examine how the crash frequency may have changed over time.

This report showcases the utility of the safety database applications developed by DVRPC. To date these applications have been distributed to several of our planning partners including our sister MPOs, and the New Jersey Department of Transportation which has incorporated the cluster finder tool into their comprehensive crash analysis application called Plan4Safety. DVRPC has already begun to utilize the analysis results from this report in identifying candidate study locations for select projects. Also, the cluster finder and route summary tools are commonly used in house in developing the safety components of various planning studies.

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Geographic Area Covered: Burlington, Camden, Gloucester, and Mercer counties in New Jersey.

Key Words: Crash data, crash cluster, crash summary, analysis, state routes, interstate routes, toll routes, US routes, New Jersey Department of Transportation, Burlington County, Camden County, Gloucester County, Mercer County.

Abstract: This technical memorandum utilizes the New Jersey Crash Database and analysis tools developed by DVRPC to examine trends and summarize crash data on county routes and higher functioning roadways in the New Jersey counties of the DVRPC region. Crash analysis is a standard component of most transportation studies undertaken at DVRPC. The work in this memorandum, and the cluster finder tool that was developed and employed for this work, helps to expedite the process of identifying crash concentrations which is especially useful in corridor studies. The major findings of this analysis are the crash clusters identified on each route. These crash concentrations, identified in State Route Identifier and milepost fashion, have a variety of applications. They can be used to develop a baseline of priority crash locations; they can be used in tandem with existing project planning data, and can be monitored over time as new crash data becomes available. This report, along with the database tools and corresponding, Geographic Information System files, will be distributed to DVRPC's member counties so that they may monitor crash trends locally.

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INCIDENT

DATA COLLECTION

A TECHNICAL MEMORANDUM

**Crash Analysis of New Jersey's Roadways
in the DVRPC Region
2002-2004**



**Delaware Valley Regional
Planning Commission**

February 2008

