

**SOUTH JERSEY  
TRANSPORTATION  
PLANNING ORGANIZATION**

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SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION

**SAFETY TRENDS REPORT:  
CRASHES**

**2003-2009**

Produced April 2011



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# CONTENTS

Contents.....	2
Introduction.....	3
Summary .....	3
Crashes: 2003-2009.....	3
Key Statistics:.....	3
County:.....	4
Municipalities:.....	4
Pedestrians: .....	5
Alcohol: .....	6
Intersections:.....	6
Crash Types: .....	7
Number of Vehicles: .....	7
Day of the Week:.....	8
Time of Day:.....	8
Roadway Jurisdiction of Crashes: .....	8
Weather-Related Factors: .....	9
Roadway Characteristics: .....	9
Lighting Conditions: .....	10

# SAFETY TRENDS REPORT: **CRASHES**

## INTRODUCTION

Traffic safety is a long-time mission for SJTPO. One of the steps in transportation safety planning is to obtain and analyze data that will assist in the safety issue prioritization process. This report presents crash data statistics for the South Jersey region (**Atlantic, Cape May, Cumberland, and Salem Counties**), for the seven-year period from 2003 through 2009. This section is entitled, Crashes; it summarizes general crash statistics, such as location, time, etc. Other sections will focus on drivers, vehicles, occupants, and pedestrians.



## SUMMARY

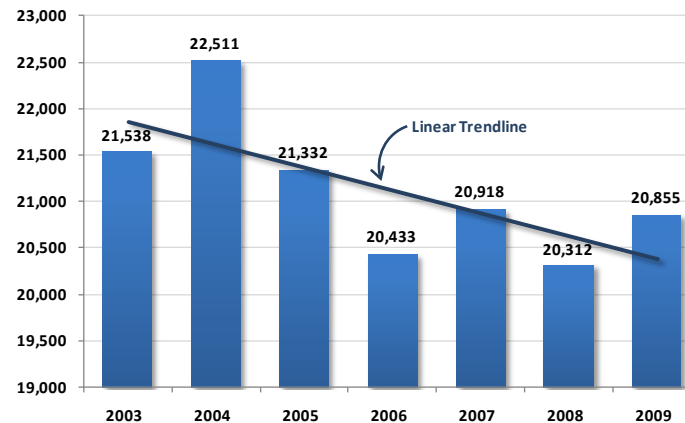
In general, crash trends have been very favorable in South Jersey during the 2003-2009 period. During that time, the number of crashes, traffic injuries, traffic fatalities, pedestrian injuries, pedestrian fatalities, and alcohol crashes all declined notably. Other clear trends also presented themselves – most crashes occurred in the middle of the day, not during either of the individual rush hour periods. In addition, far more crashes occurred on Friday and Saturday than any other day. Crashes largely occurred during clear weather and during daylight. Local Roads (Municipal and County) generated far more total crashes compared to State Roads.

## CRASHES: 2003-2009

### Key Statistics:

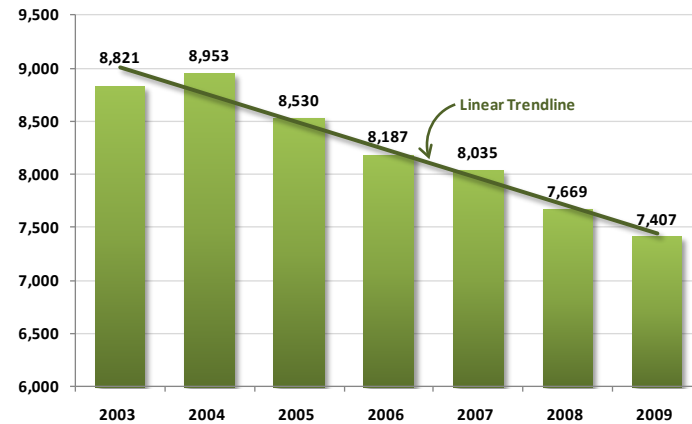
There were favorable trends in key crash statistics from 2003 to 2009, including the number of crashes for the seven-year period. This downward trend is indicated by the trend line in Figure 1, below. There was a total of 20,855 crashes in the SJTPO region in 2009, down from 21,538 in 2003.

Figure 1 - Total Crashes, by Year



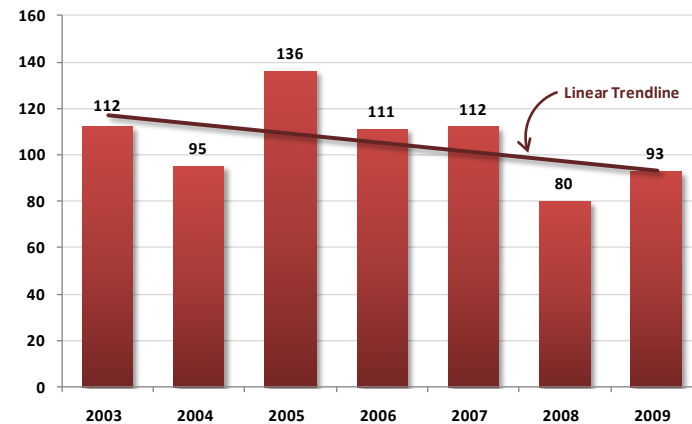
Total traffic-related injuries had a decreasing trend (favorable) for the seven-year period. This trend is indicated by the trend line in Figure 2, below. SJTPO injuries for 2009 totaled 7,407, 1,414 fewer than in 2003.

**Figure 2 - Traffic Injuries, by Year**



Finally, the total number of roadway users killed during the seven-year period has also declined. This trend is shown by the trend line in Figure 3, below. A total of 93 roadway users were killed in 2009, compared to 112 in 2003 and a peak of 136 in 2005.

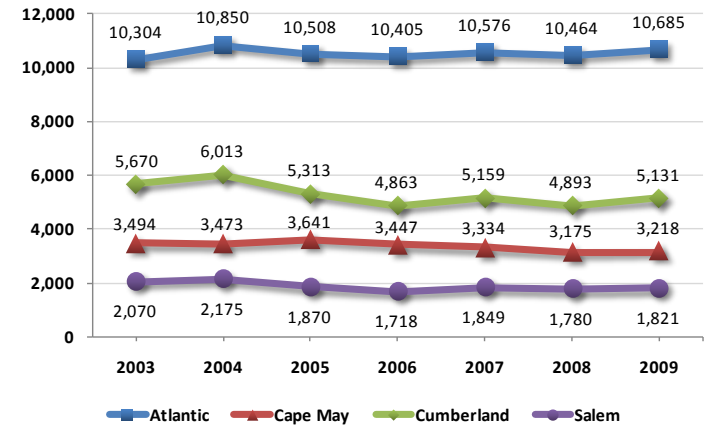
**Figure 3 - Traffic Fatalities, by Year**



**County:**

The following figure shows the breakdown of total crashes by county from 2003 through 2009. Crashes in each county were mostly steady during the seven-year period; however, Cape May, Cumberland, and Salem Counties all saw a small reduction in crashes, while Atlantic County saw a minor increase.

**Figure 4 - Total County Crashes, by Year**



**Municipalities:**

From 2003 to 2009, nearly half of all crashes in the region occurred in only 6 municipalities (Figure 5). However, some municipalities are over-represented, given their population. For example, despite a drastically higher population, Vineland actually experienced slightly fewer crashes than Atlantic City (Figure 6). Several Atlantic County municipalities ranked among the highest rates in the region for crashes per population.

Figure 5 – Total Crashes, by Municipality

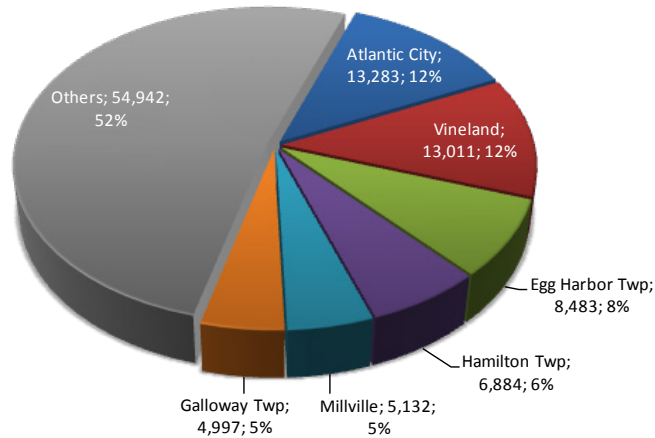


Figure 6 – Municipalities with the Highest Rates of Crashes per Population



**Pedestrians:**

There were 15 pedestrians killed, and 305 injured in 2009. Both of these statistics reflect a declining (favorable) trend over the seven-year period. These trends are reflected by the trend lines in the Figures, below.

Figure 7 - Pedestrian Injuries, by Year

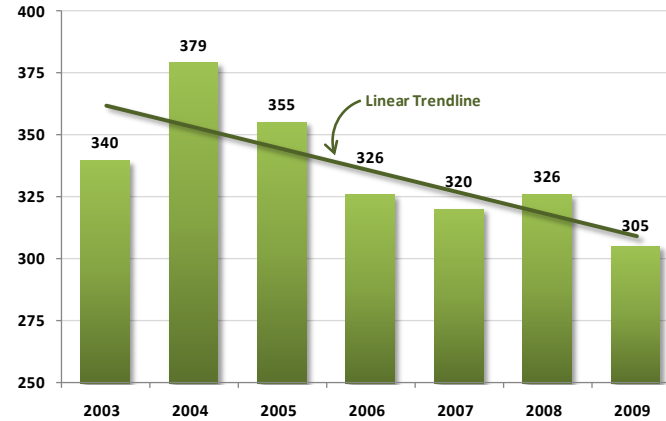
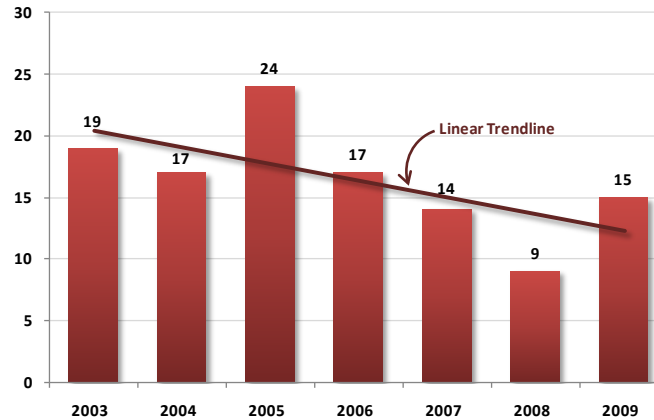


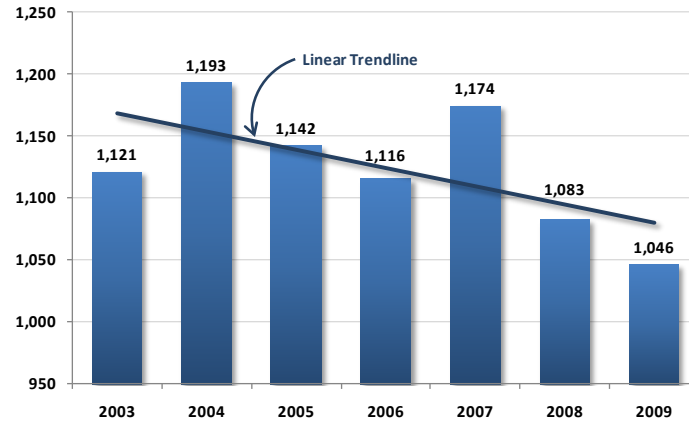
Figure 8 - Pedestrian Fatalities, by Year



**Alcohol:**

During the seven-year period, alcohol-related crashes have been volatile but have exhibited a favorable trend overall (see trend line below). Alcohol-related crashes peaked in 2004 (1,193) and 2007 (1,174); however the 2009 figure (1,046) represents part of an overall decline. In 2009, alcohol-related crashes represented 5.02 percent of all crashes that year.

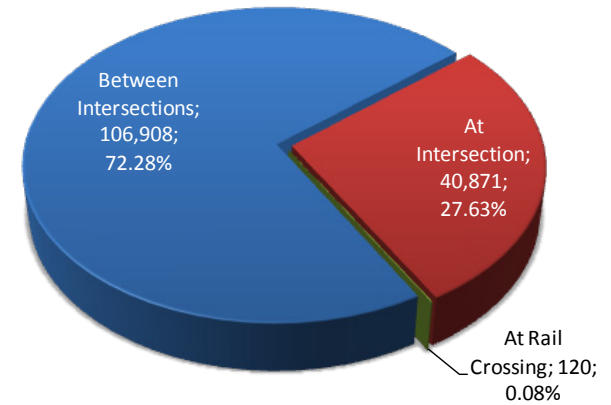
**Figure 9 - Alcohol-Related Crashes, by Year**



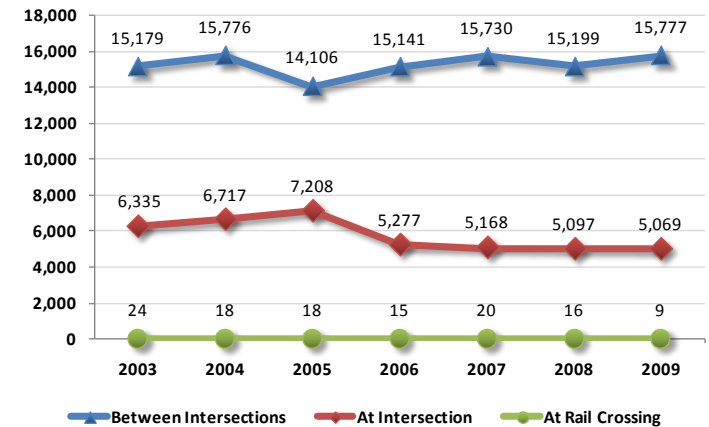
**Intersections:**

The crash data provide ample reason for a greater emphasis on intersection safety. Although intersections make up a very small percentage of roadway area, as much as 33.8 percent (2005) of crashes were recorded as intersection crashes by the officer at the scene, see Figure 10. This suggests that crashes in South Jersey could be reduced significantly through targeted infrastructure improvements that focus on design, improved visibility, signage, geometry, or reducing driver speed in and around intersections.

**Figure 10 - Total Crashes, by Proximity to Intersections**



**Figure 11 - Crash Proximity to Intersections, by Year**



### Crash Types:

The crash type is captured by the officer at the scene of the crash. Transportation safety professionals benefit from knowing the crash types at a location. With this information, proper countermeasures can be applied to the roadway, or to an effort to alter road user behavior. The top crash types include rear end, fixed object, and right-angle crashes.

Figure 12 displays the percentage of total crashes for each crash type during the seven-year period. The top five crash types in descending order are rear end (22 percent), fixed object (17 percent), right angle (16 percent), struck parked vehicle (13 percent), and same direction/side swipe (9 percent). All other crash types total 23 percent.

Figure 12 - Total Crashes, by Type

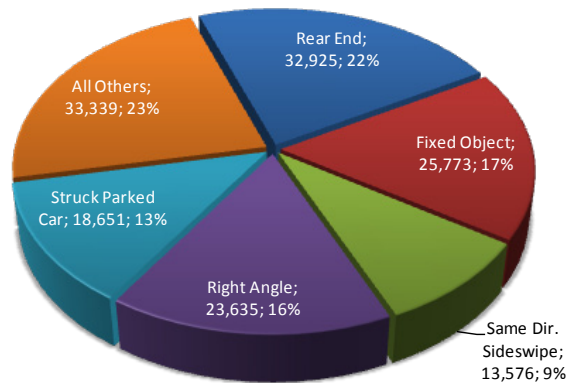
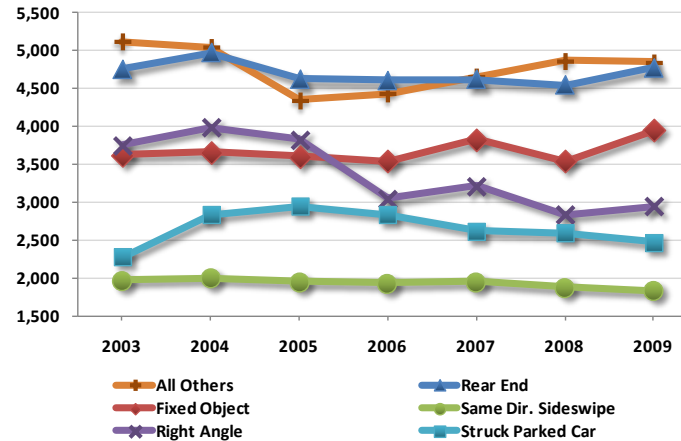


Figure 13 displays the trends in the top crash types (year-to-year changes). Three major points should be noted. Fixed object crashes reached a seven-year high in 2009 (3,955), increasing by 324 over 2003 (3,631). Also, right angle crashes decreased over the seven-year period. Finally, crashes that involved the striking of a parked vehicle increased from 2003 to 2005, then decreased every year thereafter, however are still higher in 2009 than 2003.

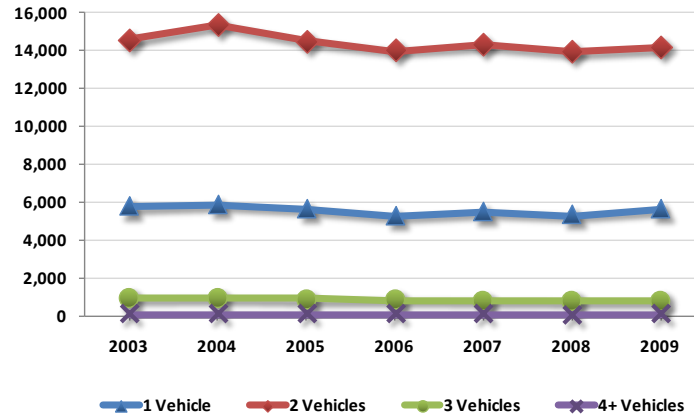
Figure 13 - Crash Type, by Year



### Number of Vehicles:

Crashes involve a varying number of vehicles. Figure 14 displays the crash by the total number of vehicles per crash. Two-car crashes represent the greatest number of crashes, at between 14,000 and 16,000 crashes annually, followed by single-car crashes at 5,000 to 6,000 crashes annually. Three-car and four plus-car crashes are much lower in number and have remained mostly constant.

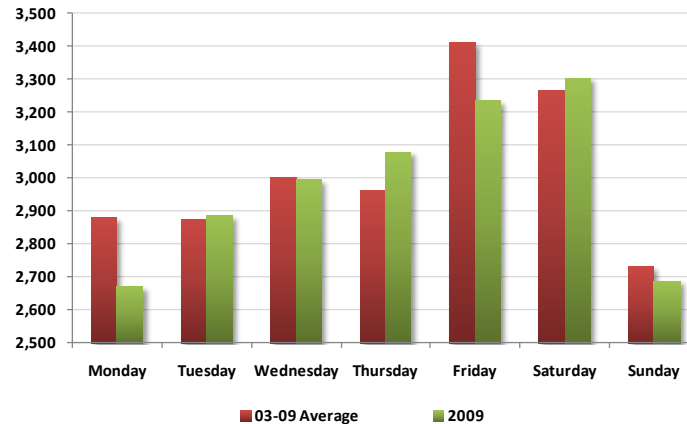
**Figure 14 - Number of Vehicles in Crashes, by Year**



**Day of the Week:**

Figure 15 displays the seven-year crash totals organized by day of the week. Friday had the most crashes, followed by Wednesday, while Sunday had the least.

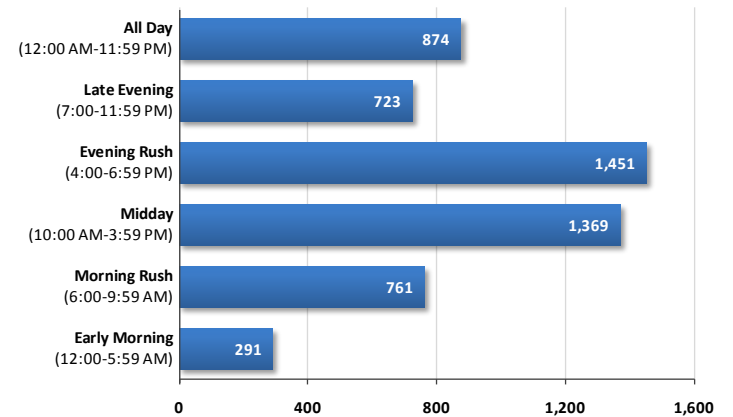
**Figure 15 - Average Crashes, by Day of Week**



**Time of Day:**

The time of day was classified in five parts for this analysis: Early Morning (12:00 am – 5:59 am), Morning Rush Hour (6:00 am – 9:59 am), Mid-Day (10:00 am – 3:59 pm), Evening Rush (4:00 pm – 6:59 pm), and Late Evening (7:00 pm – 11:59 pm). Figure 16 shows average crashes per hour for each of the time periods. The Evening Rush crashes per hour are the highest, followed by Midday. It is important to note that these figures are not adjusted to reflect the volume of traffic in any way, and thus their use should be limited.

**Figure 16 - Average Crashes per Hour, by Time of Day**



**Roadway Jurisdiction of Crashes:**

Figure 17 displays total crashes, categorized by the Roadway Jurisdiction. Municipal, County, and State Highways had the highest number of crashes in that order. These jurisdictions saw a modest decline in crashes during the seven-year total. Crashes on private property and State/Interstate Authority were next in number; and these remained mostly constant during the seven-year period. Finally, there were five other jurisdictions, none of which exceeded 100 annual crashes each, and as a result their statistics were more volatile.

Figure 17 - Crashes, by Jurisdiction, by Year

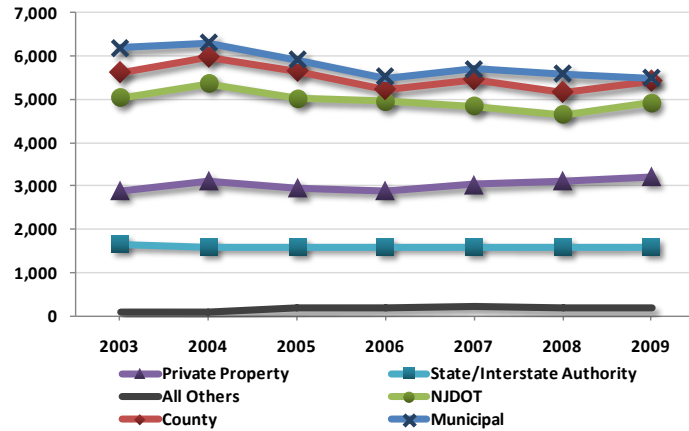
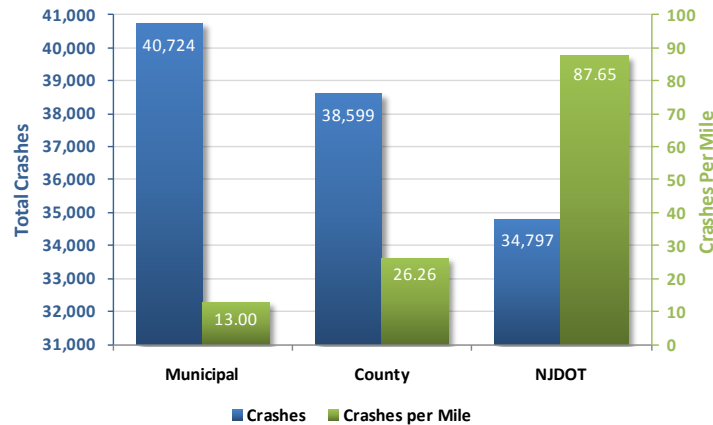


Figure 18 displays the total number of crashes during the seven-year period in select roadway jurisdictions as well as the crashes per mile.

Figure 18 - Crash Statistics in Select Jurisdictions

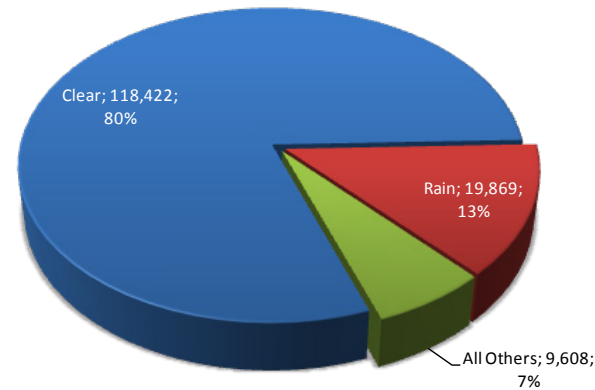


**Weather-Related Factors:**

Most crashes in South Jersey (80 percent) occur during clear weather conditions (Figure 19), followed by rainy conditions (13 percent). The remaining crashes occur during less frequent

conditions, such as snow and fog, representing a smaller percentage of crashes (7 percent). It is important to note that this represents the weather conditions at the time of the crash, not the conditions of the roadway. For example, it is reasonable to assume that whereas 13 percent of crashes occurred during rainy conditions, the rain may have contributed to crashes when it was not actually raining at the time of the crash.

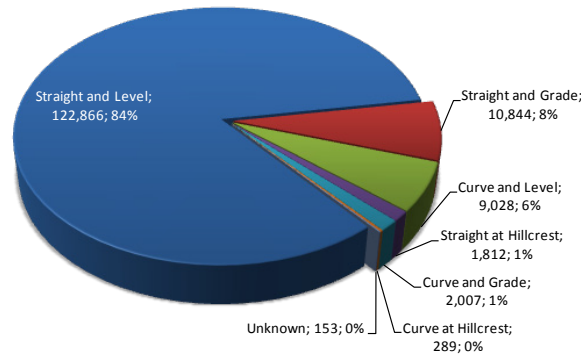
Figure 19 - Total Crashes, by Environmental Condition



**Roadway Characteristics:**

Figure 20 shows the roadway characteristics in crashes between 2003 and 2009 in South Jersey. Most crashes occur on straight and level roads (84 percent). This was followed by straight and grade (8 percent), then curve and level (6 percent).

Figure 20 - Total Crashes, by Roadway Character



**Lighting Conditions:**

Most crashes in South Jersey occurred during daylight (67 percent). Crashes in the Dark with Streetlights on Continuously, saw a small decline from 2003-2009 (See Figure 21). Crashes during daylight and in the dark with no streetlights remained largely the same during the seven-year period. All other lighting conditions represented a much smaller percentage of crashes (Figure 22).

Figure 21 - Lighting Condition in Crashes, by Year

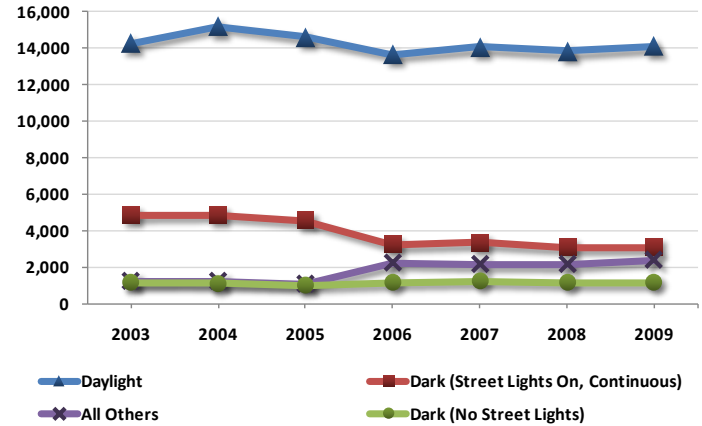


Figure 22 - Total Crashes, by Lighting Condition

