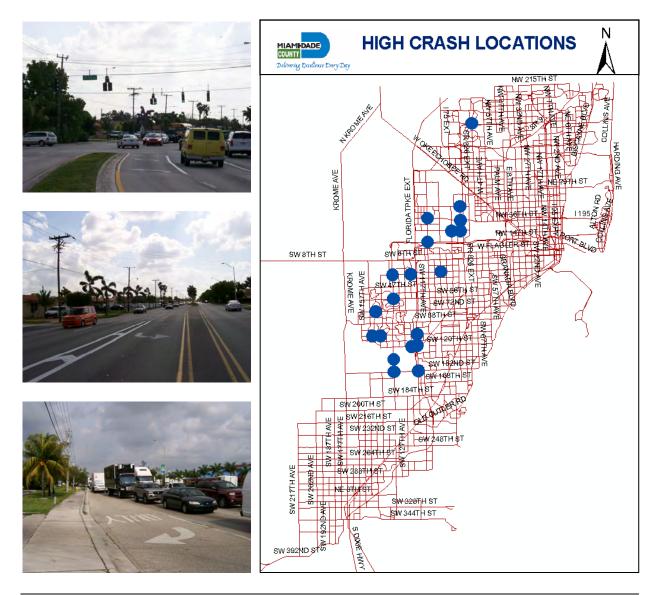


# **Miami Dade County** Public Works Department



# SAFETY STUDIES AT HIGH CRASH LOCATIONS COUNTYWIDE

Traffic Engineering Division February 2011



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#### EXECUTIVE SUMMARY

The Public Works Department (PWD) at Miami Dade County (MDC) undertook this traffic safety study based on a contract with the Metropolitan Planning Organization (MPO) and the Florida Department of Transportation (FDOT). The objective of this study is to identify traffic safety concerns and to recommend countermeasures to improve the operational safety of twenty (20) high-crash locations countywide. The following tasks have been performed to achieve the objective:

- 1. Acquiring and Processing of Data
- 2. Identifying High Crash Locations
- 3. Conducting Field Studies
- 4. Intersection Safety Assessment
- 5. Countermeasures and Potential Improvements
- 6. Preparation and Submission of Final Report

After conducting the safety analysis, the 20 locations as identified in the study are ranked in the following table:

| Loc. | Address                           | COM.  | RIF   | Local              | Crashes | Frequency | Safety | / Ratio   | Crash Sev | erity(EPDO) | Composite<br>Rank | FINAL |
|------|-----------------------------------|-------|-------|--------------------|---------|-----------|--------|-----------|-----------|-------------|-------------------|-------|
| No.  | Address                           | Dist. | Dist. | Jurisdiction       | Value   | Rank (R1) | Value  | Rank (R2) | Value     | Rank (R3)   |                   | RANK  |
| 12   | SW 117 AVE / SW 152 ST            | 9     | 5     | Unincorp           | 78      | 1         | 3.278  | 1         | 1.345     | 6           | 8                 | 1     |
| 14   | SW 122 AVE / SW 120 ST            | 8,9   | 5     | Unincorp           | 47      | 7         | 2.714  | 2         | 1.380     | 4           | 13                | 2     |
| 15   | SW 137 AVE / SW 26 ST (Coral Way) | 11    | 4     | Unincorp           | 53      | 4         | 1.965  | 7         | 1.225     | 9           | 20                | 3     |
| 10   | SW 117 AVE / SW 104 ST            | 8     | 5     | Unincorpo          | 63      | 2         | 1.853  | 9         | 1.205     | 11          | 22                | 4     |
| 18   | SW 137 AVE / SW 152 ST            | 9,11  | 5     | Unincorp           | 60      | 3         | 1.861  | 8         | 1.182     | 13          | 24                | 5     |
| 6    | NW 107 AVE / NW 12 ST             | 12    | 1     | Doral/Unincor<br>p | 52      | 5         | 1.656  | 11        | 1.191     | 12          | 28                | 6     |
| 20   | SW 152 AVE / SW 72 ST             | 11    | 5     | Unincorp           | 30      | 16        | 2.112  | 6         | 1.333     | 7           | 29                | 7     |
| 3    | NW 79 AVE / NW 36 ST              | 12    | 1     | Doral              | 51      | 6         | 2.302  | 5         | 1.118     | 18          | 29                | 8     |
| 16   | SW 137 AVE / SW 56 ST             | 10,11 | 5     | Unincorp           | 45      | 9         | 1.418  | 16        | 1.370     | 5           | 30                | 9     |
| 2    | NW 79 AVE / NW 25 ST              | 12    | 1     | Doral              | 41      | 10        | 2.490  | 3         | 1.122     | 17          | 30                | 10    |
| 1    | NW 67 AVE / NW 169 ST             | 13    | 3     | Unincorp           | 47      | 7         | 1.587  | 14        | 1.214     | 10          | 31                | 11    |
| 19   | SW 147 AVE / SW 104 ST            | 11    | 5     | Unincorp           | 27      | 17        | 1.574  | 15        | 1.556     | 1           | 33                | 12    |
| 8    | S. Hammocks Blvd. / SW 104 ST     | 11    | 5     | Unincorp           | 21      | 20        | 1.591  | 13        | 1.524     | 2           | 35                | 13    |
| 5    | NW 87 AVE / NW 25 ST              | 12    | 1     | Doral              | 41      | 10        | 1.777  | 10        | 1.148     | 15          | 35                | 14    |
| 11   | SW 117 AVE / SW 120 ST            | 8     | 5     | Unincorp           | 34      | 13        | 2.437  | 4         | 1.088     | 20          | 37                | 15    |
| 17   | SW 137 AVE / SW 136 ST            | 9,11  | 5     | Unincorp           | 38      | 12        | 1.599  | 12        | 1.132     | 16          | 40                | 16    |
| 9    | SW 97 AVE / SW 24 ST              | 10    | 1     | Unincorp           | 22      | 19        | 1.174  | 19        | 1.448     | 3           | 41                | 17    |
| 13   | SW 122 AVE / SW 26 ST (Coral Way) | 10,11 | 4     | Unincorp           | 26      | 18        | 1.395  | 17        | 1.308     | 8           | 43                | 18    |
| 4    | NW 79 AVE / NW 58 ST              | 12    | 1     | Doral/Unincor<br>p | 33      | 14        | 1.140  | 20        | 1.170     | 14          | 48                | 19    |
| 7    | NW 107 AVE / NW 41 ST             | 12    | 1     | Doral              | 32      | 15        | 1.197  | 18        | 1.094     | 19          | 52                | 20    |

Based on the safety concerns found during the development of this report, the field investigation, the collected traffic data and the traffic analysis performed, the following is a summary of the intersections safety/operational analysis and recommendations.



# Summary of the Intersections Safety/Operational Analysis and Recommendations

| Rank | Location                          | Signal<br>ID | Com.<br>Dist. | RIF<br>Dist. | Local<br>Jurisdiction | Abnormal Crash<br>Types                                  | Probable Causes  | Recommended Countermeasures   |
|------|-----------------------------------|--------------|---------------|--------------|-----------------------|--|--|---|
| 1    | SW 117 AVE / SW 152 ST            | 4764         | 9             | 5            | Unincorp.             | - Rear End<br>- Left Turn<br>- Sideswipe                 | - Large turning volumes<br>- Inadequate signal timing<br>- Restricted sight distance<br>- Inadequate channelization<br>- Inadequate signing  | Realignment of the WBLT lane to reduce the offset .     Provide turning guidelines for the WBLT lane.     Cosing median opening on the east leg, and lengthen the WBLT lane.     Converting the SB shared thru-right lane to a thru only lane.  |
| 2    | SW 122 AVE / SW 120 ST            | 4867         | 8, 9          | 5            | Unincorp.             | - Angle<br>- Left Turn<br>- Sideswipe<br>- Fixed Object  | <ul> <li>Large turning volumes</li> <li>Inadequate signal timing</li> <li>Restricted sight distance</li> <li>Excessive vehicle speed</li> <li>Poor pavement/markings conditions</li> </ul>       | Lengthen the WBLT lane to approximately 500 ft.     Installing "No Turn on Red" (R10-11) signs for NB approach.     Modifying the fences on the SE and SW corners to improve the sight distance triangles for NB approach.  |
| 3    | SW 137 AVE / SW 26 ST (Coral Way) | 5003         | 11            | 4            | Unincorp.             | - Left Turn<br>- Sideswipe<br>- Right Turn<br>- Rear End | <ul> <li>Large turning volumes</li> <li>Restricted sight distance</li> <li>Inadequate road design</li> <li>Poor pavement/markings conditions</li> <li>Presence/Location of Drivew ays</li> </ul> | Provide WBRT lane (relocate lighting poles)     Reduce the offset betw een NB/SB & EB/WB LT lanes     Channelizing NB and EB right-turn lanes at the approach.     Cosing the median openings on the north and w est legs   |
| 4    | SW 117 AVE / SW 104 ST            | 4216         | 8             | 5            | Unincorp.             | - Rear End<br>- Sideswipe<br>- Fixed Object              | Large turning volumes     Excessive vehicle speed     Inadequate roadw ay lighting     Poor pavement/markings conditions   | <ul> <li>Increase storage length for EBLT to approximately 350 ft.</li> <li>Replace the painted median on north leg with raised one</li> <li>Installing lane control (R3-8) signs for all approaches.</li> <li>Relocation of the stop bars to standard distances from crossw alks</li> </ul>  |
| 5    | SW 137 AVE / SW 152 ST            | 4637         | 9, 11         | 5            | Unincorp.             | - Rear End<br>- Right Turn<br>- Sideswipe                | Presence/Location of Drivew ays     Heavy Traffic and Heavy Vehicles     Inadequate signal timing     Poor pavement/markings conditions  | Lengthen the WB double LT lanes to 475 ft each.     Lengthen the SB double LT lanes to 300 ft each.     Channelizing the WB and SB RT lanes for free flow operations.     Extend the merge lane on the west leg receiving lanes   |
| 6    | NW 107 AVE / NW 12 ST             | 4592         | 12            | 1            | Doral/Unincorp.       | - Rear End<br>- Sideswipe                                | - Large turning volumes<br>- Inadequate channelization<br>- Inadequate signal timing<br>- Poor pavement/markings conditions  | Lengthen the NB double LT lanes to 250 ft each.     Lengthen the EB double LT lanes to 300 ft each.     Installing lane control (R3-8) signs for all lapproaches.     Installing additional post mounted No U-Turn (R3-4) signs for all approaches.   |
| 7    | SW 152 AVE / SW 72 ST             | 4982         | 11            | 5            | Unincorp.             | - Left Turn<br>- Right Turn<br>- Sideswipe               | - Large turning volumes<br>- Inadequate channelization<br>- Restricted sight distance<br>- Poor pavement/markings conditions   | Realignment of the EBWB LT lanes to reduce the offset.     Closing the median opening on west leg, and lengthen the EBLT lane to     200 ft. Also, provide a WBLT bay at the second median opening.     Lengthen the WBLT lane to approximately 400 ft.     Lengthen the NBLT lane to approximately 200 ft.     Improve the turn radius at the NE and SE corners.     hestalling "No U-Turn" (R3-4) signs for EB/WB approaches.   |
| 8    | NW 79 AVE / NW 36 ST              | 3954         | 12            | 1            | Doral                 | - Rear End<br>- Sideswipe<br>- Right Turn                | - Inadequate signal timing<br>- Large turning volumes<br>- Inadequate channelization<br>- Inadequate signing   | <ul> <li>Add one through lane to the EB approach by converting the striped gore to a full lane.</li> <li>Installing advance guide signs for SR-826 for EB, NB and SB.</li> <li>Relocate the NB stop bar closer to the intersection.</li> </ul>  |
| 9    | SW 137 AVE / SW 56 ST             | 4595         | 10, 11        | 5            | Unincorp.             | - Rear End<br>- Left Turn<br>- Right Turn<br>- Sideswipe | Presence/Location of Drivew ays     Large turning volumes     Pestricted sight distance     Inadequate signing   | <ul> <li>Add one LT lane to the NB approach.</li> <li>Reduce the offset betw een EB and WB LT lanes.</li> <li>Convert the full median opening at south leg to a directional median opening.</li> <li>Relocate the bus stop on NB approach aw ay from the intersection.</li> </ul>   |
| 10   | NW 79 AVE / NW 25 ST              | 5111         | 12            | 1            | Doral                 | - Left Turn<br>- Sideswipe                               | - Large turning volumes<br>- Presence/Location of Drivew ays<br>- Restricted sight distance<br>- Poor pavement/markings conditions   | <ul> <li>Lengthen the EBLT lane to approximately 350 ft.</li> <li>Closing the median opening east and w est of the intersection .</li> <li>Installing lane use (R3-8) signs for SB approach.</li> </ul>   |
| 11   | NW 67 AVE / NW 169 ST             | 3901         | 13            | 3            | Unincorp.             | - Rear End<br>- Left Turn<br>- Right Turn<br>- Sideswipe | Restricted sight distance     Poor visibility of signal     Large turning volumes     Inadequate road design     Poor pavement/markings conditions   | Lengthen the SBLT lane to approximately 450 ft.     Lengthen the EB and WB LT lanes to approximately 300 ft each.     Reducing the offset betw een NB and SB left turn lanes.     Smoothing the curve return radii for the WBRT traffic.     Extending the distance betw een the intersection and the add/drop lane tapers along the north leg.     Installing Signal A head signs for EB and WB approaches.     Installing warning signs for add/dropp lanes (W4-2) along the north leg. |
| 12   | SW 147 AVE / SW 104 ST            | 5021         | 11            | 5            | Unincorp.             | - Left Turn<br>- Fixed Object                            | - Large turning volumes<br>- Inadequate roadw ay lighting<br>- Obstruction is close to roadw ay<br>- Restricted sight distance   | Lengthen the NB, SB and EB LT lanes to approximately 300 ft each.     Lengthen the WBLT lane to approximately 200 ft.     Reducing the offset between left turn lanes.     Providing crossw alks, pedestrian features at all legs.  |



# Summary of the Intersections Safety/Operational Analysis and Recommendations

| Rank | Location                          | Signal<br>ID | Com.<br>Dist. | RIF<br>Dist. | Local<br>Jurisdiction | Abnormal Crash<br>Types  | Probable Causes   | Recommended Countermeasures  |
|------|-----------------------------------|--------------|---------------|--------------|-----------------------|--|---|--|
| 13   | S. Hammocks Blvd / SW 104 ST      | 5265         | 11            | 5            | Unincorp.             | - Left Turn<br>- Fixed Object  | - Large turning volumes<br>- Restricted sight distance<br>- hadequate roadw ay lighting<br>- Excessive speed  | Lengthen the EBLT lane to approximately 300 ft and closing the median opening.     Lengthen the WBLT lane to approximately 450 ft.     Reducing the offset betw een EB/WB LT lanes.     Modifying the median noses for north/south legs to provide clear pedestrian paths.     Installing curve w anning (W1-2R) and signal ahead (W3-3) signs for northbound approach.  |
| 14   | NW 87 AVE / NW 25 ST              | 4333         | 12            | 1            | Doral                 | - Right Turn<br>- Sidesw ipe   | - Large turning volumes<br>- Presence/Location of Drivew ays<br>- Inadequate channelization<br>- Inadequate signing   | Lengthen the NBLT lane to approximately 450 ft.     Improving the EB approach lane alignment at the start of the taper.     Modif ying the SBRT radius to better accommodate heavy vehicles.     Installing lane use signs (R3-8) for all approaches.  |
| 15   | SW 117 AVE / SW 120 ST            | 4866         | 8             | 5            | Unincorp.             | - Rear End<br>- Angle<br>- Left Turn<br>- Sidesw ipe<br>- Right Turn<br>Fixed Object | Large turning volumes     Inadequate signal timing     hadequate channelization     hadequate signing     Excessive speed     Poor pavement/markings conditions                     | Lengthen the EBLT lanes to approximately 600 ft each.     Installing lane use signs (R3-8) for all approaches.     Modifying the channelization of the eastbound right-turns.     Provide/repair the pedestrian features including ADA approved pedestrian ramps.  |
| 16   | SW 137 AVE / SW 136 ST            | 4825         | 9, 11         | 5            | Unincorp.             | - Rear End<br>- Left Turn<br>- Sideswipe   | - Large turning volumes<br>- hadequate signal timing<br>- hadequate channelization<br>- Poor pavement/markings conditions   | Lengthen the WBLT lane to 300 ft and provide raised median.     Reduce the offset betw een NB and SB LT lanes.     Add pedestrian crossw alks, ADA approved pedestrian ramps and signal heads at east and south legs.  |
| 17   | SW 97 AVE / SW 24 ST              | 3341         | 10            | 1            | Unincorp.             | - Fixed Object   | - Inadequate roadw ay lighting<br>- Excessive speed<br>- Obstruction is close to roadw ay   | Lengthen the WBLT lane to approximately 500 ft.     Lengthen the SBLT lane to approximately 350 ft.     horease the walk time for pedestrians crossing SW 24 Street.     hstall lane end and merge signs (W9-2L & W4-2) on north leg NB.   |
| 18   | SW 122 AVE / SW 26 ST (Coral Way) | 4564         | 10, 11        | 4            | Unincorp.             | - Left Turn<br>- Fixed Object  | <ul> <li>hadequate signal timing</li> <li>hadequate roadw ay lighting</li> <li>Restricted sight distance</li> <li>Large turning volumes</li> <li>Excessive vehicle speed</li> </ul> | Lengthen the WBLT lane to approximately 350 ft.     Lengthen the SBLT lane to approximately 350 ft.     Reduce the offset between BB and WB left turn lanes.     Installing curve warning signs (W1-2) for both EB and WB approaches     and "Signal Ahead" signs (W3-3) for WB approach.     Install lane end and merge signs (W9-2L & W4-2) on south leg SB.     Provide pedestrian signal heads to cross the north and w est legs.  |
| 19   | NW 79 AVE / NW 58 ST              | 4176         | 12            | 1            | Doral/Unincorp.       | - Right Turn<br>- Sidesw ipe   | - Large turning volumes<br>- Restricted sight distance<br>- Presence/Location of Drivew ays<br>- Inadequate roadw ay design<br>- Inadequate channelization                          | Convert the EBRT lane to be a shared through and right-turn.     Add a third receiving lane to the EB movement.     Install turn w anning and signal ahead signs (W1-1 & W3-3) at SB.     Improve turning radius for both EB and WB RT.  |
| 20   | NW 107 AVE / NW 41 ST             | 4887         | 12            | 1            | Doral                 | - Sideswipe<br>- Backing   | Large turning volumes     - hadequate signal timing     - hadequate roadw ay design     - Presence!Location of Drivew ays     - hadequate channelization                            | Changing the lane configuration of the SB approach. This<br>improvement will require additional right-of-way.<br>Changing the lane configuration of the NB approach.<br>Changing the current half quad north/south split phase to a full quad.<br>Lengthen the EBLT lane to approximately 400 ft.<br>Lengthen the WB outside LT lane to approximately 500 ft.<br>Lengthen the proposed SBLT lanes to approximately 350 ft teach.<br>Obsing of the median opening in the north leg. |



#### **1. INTRODUCTION**

The Public Works Department (PWD) at Miami Dade County (MDC) undertook this traffic safety study based on a contract with the Metropolitan Planning Organization (MPO) and the Florida Department of Transportation (FDOT). The objective of this study is to identify traffic safety concerns and to recommend countermeasures to improve the operational safety of twenty (20) high-crash locations countywide. The top 20 crash locations countywide were identified for the study period from 2006 through 2008. A list of the 20 locations and their associated jurisdictions is presented in *Table 1*.

PWD has evaluated the crash data for the years 2006 through 2008, in which a review of the hard copy police reports was performed, and collision diagrams were prepared. Furthermore, a comprehensive traffic safety analysis was performed for all locations in order to identify the abnormal crash patterns. In addition, field reviews were conducted within the project limits. In some cases, Synchro/Simtraffic simulation was performed. As such, traffic data was also collected at these intersections. Based on these criteria, findings, and conclusions recommendations are presented. The improvements have been developed and sketched to clearly identify the modifications required. Finally, these efforts have been documented and presented in a report format. *Figure 1* presents the study intersection locations.

This report follows the procedures outlined in the Manual on Uniform Traffic Studies (MUTS), the Highway Capacity Manual – 2000 Update (HCM2000), the Manual of Uniform Traffic Control Devices (MUTCD), and the National Highway Institute (NHI) Safety Analysis guidelines. The report evaluates the following for each intersection:

- Site Description
- Safety Conditions and Analysis
- Traffic Operation Conditions and Analysis
- Recommendations
- Conceptual plan

# 2. METHODOLOGY

In order to determine high crash locations it is necessary to look at crash data collected throughout the county. First, a list of locations of 15 or more crashes per year during the last three years (2006, 2007 and 2008) was obtained from Miami Dade Police Department (MDPD), System Development Bureau. This data needed to be filtered and arranged so we can identify the highest 20 crash locations.

Once the candidate locations were determined, we performed review of the hard copy police reports, and prepared collision diagrams for the 20 locations. They were categorized by as many of the following features as possible: time of day, traffic control, alcohol involvement, weather conditions, etc. Additionally, 24-hour traffic volumes, turning movement volumes and signal timing data were collected for all locations. Also, field visits and evaluations were conducted for all locations.



# Table 1 – Study Locations

(In alphabetical order)

| Loc.<br># | Address                             | Commission<br>District | RIF<br>District | Jurisdiction         |
|-----------|-------------------------------------|------------------------|-----------------|----------------------|
| 1         | NW 67 Ave. / NW 169 St.             | 13                     | 3               | Unincorporated       |
| 2         | NW 79 Ave. / NW 25 St.              | 12                     | 1               | Doral                |
| 3         | NW 79 Ave. / NW 36 St.              | 12                     | 1               | Doral                |
| 4         | NW 79 Ave. / NW 58 St.              | 12                     | 1               | Doral/Unincorporated |
| 5         | NW 87 Ave. / NW 25 St.              | 12                     | 1               | Doral                |
| 6         | NW 107 Ave. / NW 12 St.             | 12                     | 1               | Doral/Unincorporated |
| 7         | NW 107 Ave. / NW 41 St              | 12                     | 1               | Doral                |
| 8         | S. Hammocks Blvd. / SW 104 St.      | 11                     | 5               | Unincorporated       |
| 9         | SW 97 Ave. / SW 24 St.              | 10                     | 1               | Unincorporated       |
| 10        | SW 117 Ave. / SW 104 St.            | 8                      | 5               | Unincorporated       |
| 11        | SW 117 Ave. / SW 120 St.            | 8                      | 5               | Unincorporated       |
| 12        | SW 117 Ave. / SW 152 St.            | 9                      | 5               | Unincorporated       |
| 13        | SW 122 Ave. / SW 26 St. (Coral Way) | 10,11                  | 4               | Unincorporated       |
| 14        | SW 122 Ave. / SW 120 St.            | 8,9                    | 5               | Unincorporated       |
| 15        | SW 137 Ave. / SW 26 St. (Coral Way) | 11                     | 4               | Unincorporated       |
| 16        | SW 137 Ave. / SW 56 St.             | 10,11                  | 5               | Unincorporated       |
| 17        | SW 137 Ave. / SW 136 St.            | 9,11                   | 5               | Unincorporated       |
| 18        | SW 137 Ave. / SW 152 St.            | 9,11                   | 5               | Unincorporated       |
| 19        | SW 147 Ave. / SW 104 St.            | 11                     | 5               | Unincorporated       |
| 20        | SW 152 Ave. / SW 72 St.             | 11                     | 5               | Unincorporated       |

\* Data obtained from Miami Dade Police Department (MDPD), System Development Bureau

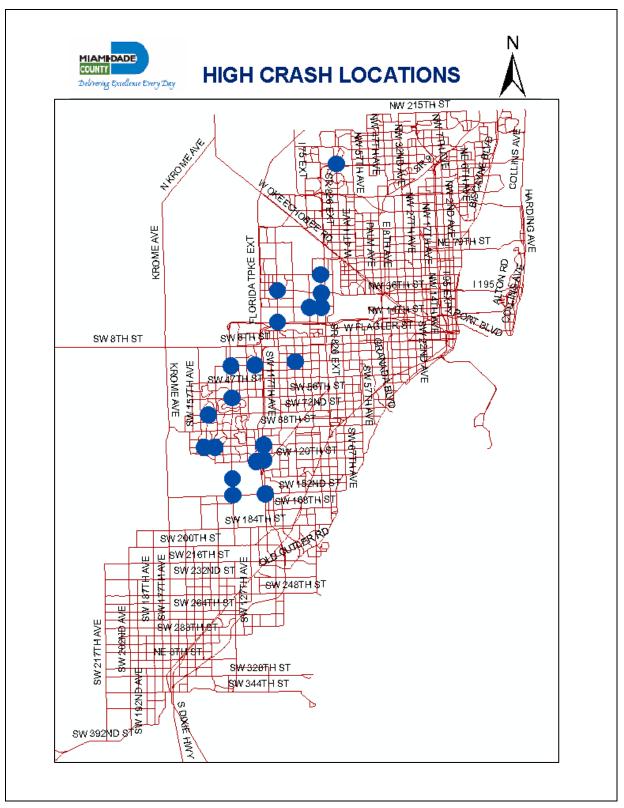


Figure 1: Study Locations Map



A three-phased ranking scheme is used as the basis to determine the high crash locations. Intersections were then ranked by the total number of crashes (Crash Frequency), crash rate (Safety Ratio), and crash severity index (Equivalent Property Damage Only – EPDO) methods. Finally, these intersections were ranked by a combination of these factors. The summary of the 20 high crash locations safety analysis is shown in *Table 2*.

#### 2.1. Number of Crashes/Crash Frequency Method

In this method, we rank locations by the number (or frequency) of average annual relevant crashes for the three year study period. The location with the highest number of crashes ranks as number 1, the location with the next highest number of crashes ranks as number 2 and so on.

### 2.2. Crash Rate/Safety Ratio Method

The Crash Rate Method compares the number of crashes to the volume of traffic, with the later measured as the number of vehicles entering a spot in a given time period. The steps involved in this method are as follows.

1. Determine the location's actual crash rate. The actual spot crash rate is found as annual average number of crashes during the study period divided by the average daily traffic volume (AADT) during the study period in crashes per million vehicles.

| Actual Crash Rate (RMEV) = | Number of Crashes | 1,000,000 |
|----------------------------|-------------------|-----------|
| netual Crush Kale (RMEV) – | AADT              | 365       |

2. Find the critical crash rate for similar spot locations throughout the state

| Critical Crash Rate = Avg.StateCrashRate + | $+ \frac{0.5}{+1.96}$ | Avg.StateCrashRate |
|--|-----------------------|--------------------|
| Critical Crush Kale – Avg.StateCrushKale   | TrafficBase 1.90      | TrafficBase        |

Where:

| Traffic Base = | Years * AADT * 365 |
|----------------|--------------------|
| Traffic Dase – | 1,000,000          |

3. Calculate the safety ratio by dividing the actual crash rate by the critical crash rate.

$$Safety Ratio = \frac{Actual Crash Rate}{Critical Crash Rate}$$

4. Rank locations by the safety ratio. The location with the highest safety ratio ranks as 1, the location with the next highest safety ratio ranks as 2 and so on.



Using the crash rate method in comparing the crash experience between different time periods or between locations provides a basis for more accurate and meaningful conclusions since it accounts for the numbers of vehicles "exposed" to the hazards of driving within a given time period. It also prevents the potentially misleading classification of a relatively safe highvolume location as "high-crash" simply because it has experienced a relatively large number of crashes. However, it tends to unfairly identify low-volume locations having relatively few crashes as high-crash locations.

## 2.3. Crash Severity Index/Equivalent Property Damage Only (EPDO) Method

Each site is ranked according to the financial loss from the crashes. This is determined by using values based on the injuries sustained in each crash type as found in the data provided. The crash severity index is calculated by the following formula based on the values obtained from FDOT:

Crash Severity Index =  $\frac{(12 \times FatalCrashCount) + (4 \times InjuryCrashCount) + (\Pr opertyDamageOnlyCrashCount)}{(TotalCrashCount)}$ 

Then the location with the highest cost ranks as 1, the location with the next highest cost ranks as 2 and so on.

#### 2.4. Composite Ranking

Each intersection was given a score based on its ranking of the crash frequency, safety ratio, and EPDO. For example, the intersection with the highest number of crashes was given a score of 1; the intersection with the next highest number of crashes was given a score of 2 and so on. The same scoring procedure was done with safety ratio and EPDO for each intersection. The sum of these individual scores represented the intersection's composite score. Accordingly, the highest rank (1) is given to the location with the lowest combined score and so on. In case of a tie, each location gets the same rank and the following ranking is skipped. *Table 3* provides complete details of the ranking methodology.

|   |           | z | z | z | z | z | z | z | S | s | s  | s  | s  | 05 | Í |
|---|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|---|
|   | Loc.<br># | 1 | 2 | 3 | 4 | 5 | 9 | 7 | 8 | 6 | 10 | 11 | 12 | 13 |   |
| 1 |           |   |   |   |   |   |   |   |   |   |    |    |    |    |   |
|   |           |   |   |   |   |   |   |   |   |   |    |    |    |    |   |
|   |           |   |   |   |   |   |   |   |   |   |    |    |    |    |   |
|   |           |   |   |   |   |   |   |   |   |   |    |    |    |    |   |
|   |           |   |   |   |   |   |   |   |   |   |    |    |    |    |   |
|   |           |   |   |   |   |   |   |   |   |   |    |    |    |    |   |
|   |           |   |   |   |   |   |   |   |   |   |    |    |    |    |   |

| Image for the state of the state  |     |                             |                |          |                | Cras     | Crashes Frequency | nencv |                          |                  |                         |         |          | FI Avo.     |          |          |          |         | Crash      |
|--|-----|-----------------------------|----------------|----------|----------------|----------|-------------------|-------|--------------------------|------------------|-------------------------|---------|----------|-------------|----------|----------|----------|---------|------------|
| Motor         Total         Total <t< th=""><th>00</th><th></th><th>3000</th><th>2</th><th>20</th><th>cn lo</th><th>000</th><th>1010</th><th>2 V 2 2</th><th></th><th>A second A</th><th></th><th></th><th>Crach Pate</th><th></th><th>Actual</th><th>Critical</th><th>Safatu</th><th>Savarity</th></t<>   | 00  |                             | 3000           | 2        | 20             | cn lo    | 000               | 1010  | 2 V 2 2                  |                  | A second A              |         |          | Crach Pate  |          | Actual   | Critical | Safatu  | Savarity   |
| MUTARE INVERSET         MUTARE IN  | *   |                             | Z OUO<br>T Ota | νĽ       | ota            | × L      | ota               | 502   | al 3 rears<br>16 to 2008 |                  | Average A<br>(2006 to 2 | 008)    | AADT     | 3 year Avg. |          | Crash    | Crash    | Ratio   | eveny<br>& |
| WIGTARE, WINTAGE         I   |     |                             |                |          | - Announcement | PDO      | . –               | PDO   | Injuny F                 | atal             | DO Injury               | / Fatal |          | (*)         |          | Kate (°) | Kate (°) |         | EPDO       |
| Markelwissing         (i)         <  |     |                             | 43             | Ĩ        | ß              |          | 4                 |       | 140                      | -                | 47                      |         | 10011    |             | 11       | 1001     | 1001     |         |            |
| WITANE INVEST $I$  | -   |                             | 2              | -        |                | <u> </u> |                   | 130   | 10                       | -                | <u> </u>                | •       | 15921    | 1/9.0       | 21.71    | 1.684    | 1.061    | 1.587   | 1.214      |
|  | ŝ   |                             | 37             | 7        | 18             |          | 38                |       | 123                      |                  | 41                      |         | 17661    | 0.412       | 17 3EG   | 7 26.7   | 0.040    | 0.00    | 1 133      |
| WYANE ION SAFT   | 1   |                             | 1              |          |                |          |                   | 118   | 5                        |                  |                         | 0       | 4/001    | 0.413       | 0000.11  | 700.2    | 0.343    | 2.430   | 1. 122     |
| mutanetic  | ۲   | NW 79 AVE / SW 36 ST        | 47             | 7        | 85             |          | 22                |       | 152                      |                  | 51                      |         | E 1 EU E | 0 574       | 10 700   | 2020     | 1 171    | 0000    | 4 440      |
| WTANE INVERSET $23$ $3$  | 2   |                             | 2              |          |                |          |                   | 146   | 9                        |                  | <u> </u>                | •       | chere    | 1/0.0       | 10./ 33  | 060.7    | 1.171    | 205.2   | 1.110      |
| MURTARE INVERSI         23         1         2         0         3         1         2         0         3         1         1         2         0         3         1         1         2         0         1         1         2         1         1         2         1         1         2         1   | · · |                             |                | 7        | 12             |          | 33                |       | 100                      |                  | 33                      |         | 00000    | 0.470       | 01000    | 1 01 1   | 0000     | 1 1 10  | 4.470      |
| Wert Are I wurd Saft         i   | 4   |                             |                | <u> </u> |                | -        | $\vdash$          | 97    | 2                        | -                | 2 1                     | 0       | 879979   | 0.478       | 32.842   | 1.015    | 0.890    | 1.140   | 1.1/0      |
| mm mertane. $                                    $   | '   |                             | 35             |          |                | Ĺ        | 17                |       | 122                      | $\left  \right $ | 41                      |         | 01011    |             | 00007    |          |          |         |            |
| Wr for Are inverted         i  | n   |                             | 0              | -        |                | -        |                   | 116   | 9                        |                  | ⊢                       | •       | 54310    | 1/9.0       | 19.823   | 1 90.2   | 1.155    | 1.777   | 1.148      |
| mutuation $it         i         $  | ¢.  |                             | 48             |          | 99             |          | <del>1</del> 3    |       | 157                      |                  | 52                      |         | 00000    |             |          |          | 000      | 1 020   |            |
| Wurdzektivwurdst         2         3         1         0         3         1         0         3         1         0         3         1         0         3         1         0         3         1         0         3         1         0         3         1         0         3         1         0         3         1         0         3         1         0         1         1         0         1         0         1         1         0         1         1         0         1         1         0         1         1         1         1         0         1   | þ   |                             | -              |          |                | L        |                   | 147   | 10                       |                  |                         | •       | 03399    | 1/6.0       | 30.441   | 1.719    | 1.038    | 000.1   | 1.191      |
| MUMONOR         20         1         0         30         1         0         30         1 <th< th=""><th>7</th><td></td><td>29</td><td></td><td>31</td><td></td><td>36</td><td></td><td>96</td><td></td><td>32</td><td></td><td>1000</td><td>1210</td><td>0110</td><td></td><td>1 001</td><td>1 107</td><td>1 001</td></th<>  | 7   |                             | 29             |          | 31             |          | 36                |       | 96                       |                  | 32                      |         | 1000     | 1210        | 0110     |          | 1 001    | 1 107   | 1 001      |
| Liminocccs BLVD i SW144ST         24         21         10         6         1         10         12         1         104         151         104         151         104         151         104         151         104         151         104         151         104         151           SW1 AVE/ SW24ST $10$ $11$ $1$ <   | -   |                             | -              | <u> </u> | ┣              | 35       | ┣—                | 8     | <u>е</u>                 | -                | 1 1                     | •       | 00004    | 176.0       | 24.4.13  | 1.311    | CRU.I    | 1.19/   | 1.094      |
| Trimmono and trimmon | °   | E HAMMOCKE BLVD / SWI 104   | 24             |          | 3              |          | 8                 |       | 83                       | ╞                | 21                      | ļ       | 10110    | 0110        | 10.01    | 100 1    | 1 0 10   | 1 701   | 1 101      |
| Witzeki sward         III         III         III         III         IIII         IIII         IIII         IIIII         IIIII         IIIIII         IIIIIII         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII   | 0   | 9. HAIMINUUAN BLVU / 3W 104 | 5              | -        |                |          |                   | 52    | =                        |                  | -                       | •       | 34505    | 0.413       | 12.594   | 1.00 /   | 1.048    | 1.901   | 1.524      |
| mutromotion         i </th <th>đ</th> <td></td> <td>17</td> <td></td> <td>32</td> <td></td> <td>28</td> <td></td> <td>67</td> <td></td> <td>52</td> <td></td> <td>50046</td> <td>0110</td> <td>030 10</td> <td>1 050</td> <td>0 005</td> <td>4.474</td> <td>4 440</td>   | đ   |                             | 17             |          | 32             |          | 28                |       | 67                       |                  | 52                      |         | 50046    | 0110        | 030 10   | 1 050    | 0 005    | 4.474   | 4 440      |
| W117 AVE/SW 104 ST $\overline{51}$ $\overline{61}$ <th>n</th> <td></td> <td>-</td> <td>L</td> <td></td> <td>L</td> <td></td> <td>57</td> <td>9</td> <td></td> <td></td> <td>•</td> <td>04700</td> <td>0.413</td> <td>71.20U</td> <td>nen.i</td> <td>0.835</td> <td>1.1/4</td> <td>1.448</td>   | n   |                             | -              | L        |                | L        |                   | 57    | 9                        |                  |                         | •       | 04700    | 0.413       | 71.20U   | nen.i    | 0.835    | 1.1/4   | 1.448      |
| WITANE/SW1205T         3         1         0         7         0         7         0         7         0         7         0         7         0   | 10  |                             | 22             | -        | X              |          | 39                |       | 190                      |                  | 63                      |         | 0.026 E  | 0 674       | 01700    | 1 070    | 1 011    | 4 050   | 1 206      |
| W117AE         Image: ima          | 2   |                             | 4              |          |                | _        |                   | 177   | 13                       |                  |                         | 0       | 92303    | 1/0.0       | c1 /.cc  | 6/0.1    | 1.0.14   | 1.000   | CU2.1      |
| WITAVE/SWT2ST         3         2         0         3         1         0         33         1         0         333         1         0         333         1         0         3333 <th< th=""><th>÷</th><td></td><td>38</td><td></td><td>72</td><td></td><td>37</td><td></td><td>102</td><td></td><td>34</td><td></td><td>50061</td><td>0.758</td><td>71 8 8 G</td><td>1 557</td><td>0637</td><td>2 427</td><td>1 089</td></th<>  | ÷   |                             | 38             |          | 72             |          | 37                |       | 102                      |                  | 34                      |         | 50061    | 0.758       | 71 8 8 G | 1 557    | 0637     | 2 427   | 1 089      |
| W 17 AVE / SW 122 ST         33         73         73         235         76         26         9         0         56641         0         62         23         23         2077         2694         0         229         23         23         23         23         23         23         23         23         23         23         23         23         23         23         2664         0         63         1         66         1         66         1         66         1         66         1         66         1         66         1         66         1         26         23         26         26         27         0         26         0         1         20         1         20         1         20         1         20         1         20         1         20         1         20         21         20         21         20         21         20         21         20         21         20         21         20         21         20         21         20         21         20         21         20         21         20         21         20         21         20         21         20         21  | -   |                             | 2              |          |                |          |                   | 66    | 3                        |                  | 33                      | 0       | 10000    | 0.62.0      | 0000.1.2 | t oo     | 0.000    | 2:401   | 1.000      |
| Matrix Are is with a state of the formation of the | 6   |                             |                |          | 13             |          | 62                |       | 235                      |                  | 78                      |         | 70667    | 0.413       | 770.00   | 7 601    | 0 8 2 2  | 2 7 78  | 1 345      |
| Sw1zAve/Sw26ST         23         31         24         24         78         78         26         125         1258         0.902         1395         13   | !   |                             | 9              |          |                |          |                   | 208   | 27                       |                  |                         | 0       | 1 3002   | 2 + 0       | 110.07   | 100.7    | 0.044    | 0.410   | 0±0-1      |
| M12AVE/SW120ST         22         1         0         7         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         4         0         27         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         0         24         10         24         24         0         24         10         24         0         24         0         24         0         24         0         24         0         24         0         24         0  | 13  |                             |                |          | 2              |          | 24                |       | 82                       |                  |                         |         | 56641    | 0413        | 20.674   | 1 258    | 0 902    | 1.395   | 1.308      |
| Sw12z Ave/sw 120 ST         35         65         42         42         42         42         42         42         42         42         42         6         0         18.87         2.514         0.926         2.714         1.905         2.714         2.  |     |                             | -              |          |                |          |                   | 70    | 80                       |                  |                         | 0       | 0001     | 2           |          |          | 0.001    |         | 2000       |
| 31         4         0         5         6         0         14         0         5         6         0         14         0         100         0.00   | 14  |                             |                |          | 35             | -        | 42                |       | 142                      |                  | 47                      |         | 51582    | 0.413       | 18 877   | 2 514    | 0 926    | 2 7 1 A | 1 380      |
| w 137 NE / SW 26 T         49         49         47         40         47         60         53         600         53         6289         0.571         24.925         2.140         1.089         1.965           40         41         5         41         5         41         5         45         5         1         2         2         1         147         1.037         1.416           W 137 AVE / SW 36 T         40         41         5         1         2         2         0         149         1         0         1  |     |                             | 4              |          |                |          |                   | 124   | 18                       |                  |                         | 0       | 01002    | 2 + 0       | 120.01   | 1.0.1    | 0.320    | 2.1.14  | 000-1      |
| M37 AVE / SW 55T         4         0         0   | 5   |                             |                |          | z.             | Ĩ        | 47                |       | 160                      |                  | 53                      |         | 68780    | 0 571       | 24 075   | 0 110    | 1 080    | 1 0.65  | 1 225      |
| W 137 ME 15 W 56 T         40         41         54         135         45         45         45         45         45         45         45         45         46         103         1470         1037         1416   | 2   |                             | 4              |          |                |          |                   | 148   | 12                       |                  |                         | 0       | 00200    | - 10:0      | 070.17   | 2-1-7    | 1.000    | 1.000   | 1.440      |
| 38       1       2       2       0       1       4       0       000       00000       0000       0000       <   | 16  |                             | 40             | 7        | #              |          | Z.                |       | 135                      | _                | 45                      |         | 83870    | 0 571       | 30.613   | 1 470    | 1 037    | 1 418   | 1 370      |
| w 137 AVE / SW 136 ST         32         39         43         14         36         5713         0.571         20.653         1.822         1.139         1.599         <   | 2   |                             | 9              |          | 5 1            | -        |                   | 121   | 13                       | 1                |                         | 0       | 00012    | 1 10.0      | CI 0.00  | 0.14.1   | 1.001    | 1.410   | 0/6.1      |
| 30       2       0       31       0       4       2       0       16       5       0       36       2       0       0.31       0.33       0.34   | 17  |                             | 32             |          | 66             |          | 43                |       | 114                      |                  | 38                      |         | E7121    | 0 E 74      | 20 862   | 1 000    | 1 1 20   | 4 600   | 1 127      |
| w 137 AVE / SW 152 ST         65         56         60         181         60         131 42         1.916         1.030         1.861   | 1   |                             | 2              |          |                |          |                   | 109   | 5                        |                  |                         | 0       | 10170    | 1/0.0       | CC0.07   | 770.1    | 1.139    | 1.335   | 1.132      |
| Example  | 18  |                             |                | ~        | 92             |          | 8                 |       | 181                      |                  | 60                      |         | 86251    | 0 571       | 31 482   | 1 916    | 1 030    | 1 861   | 1 182      |
| Sw 147 AVE / Sw 104 ST $28$ $21$ $32$ $61$ $27$ $61$ $27$ $61$ $1.674$ $1.514$ $1.574$ $1.516$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$ $1.574$   | 2   |                             | 2              |          |                |          |                   | 170   | 11                       |                  |                         | 0       | 00201    | - 10:0      | 201-10   | 0.0.1    | 1.000    | 1.001   | 1. 102     |
| 20       22       6       0       19       2       0       26       1       0       22       6       0       24       90       64       15       0       202       1       10.30       1.402       1.402       1.402       1.402       1.402       1.41  | 6   |                             | 28             | . 4      | 4              |          | 32                |       | 81                       |                  | 27                      |         | 50384    | 0.413       | 18 300   | 1 468    | 0 033    | 4 674   | 1 556      |
| Sw 122 AVE / SW 72 ST         34         32         24         90         30         30         38424         0.413         14.025         2.139         1.013         2.112   | 2   |                             | 9              |          |                |          |                   | 99    | 15                       |                  |                         | 0       | 00001    | 2 + .0      | 060.01   | 004.1    | 0.900    | 1.014   | 000.1      |
| 30 4 0 27 5 0 23 1 0 80 10 0 27 3 0 27 1 0 80 10 0 27 3 0 27 1 0 80 10 0 27 3 0 27 1 0 10 0 10 0 10 0 10 0 10 0 10 0   | 2   |                             | 34             | .,       | 22             |          | 24                |       | 6                        | _                | 30                      |         | 10101    | 0.413       | 11 0.25  | 0 130    | 1 013    | 0 110   | 1 222      |
|  | 3   |                             | 4              |          |                | 33       | -                 | 8     | 9                        | 0                |                         | •       | 10424    | 0.410       | 020.41   | 5.133    | 610.1    | 7117    | ccc.1      |

# Table 2 – Summary of Safety Analysis



6



| Loc. | Address                           | COM.  | RIF   | Local              | Crashes | Frequency | Safety | y Ratio   | Crash Sev | erity(EPDO) | Composite<br>Rank | FINAL |
|------|-----------------------------------|-------|-------|--------------------|---------|-----------|--------|-----------|-----------|-------------|-------------------|-------|
| No.  | Address                           | Dist. | Dist. | Jurisdiction       | Value   | Rank (R1) | Value  | Rank (R2) | Value     | Rank (R3)   | (R1+R2+R3)        | RANK  |
| 12   | SW 117 AVE / SW 152 ST            | 9     | 5     | Unincorp           | 78      | 1         | 3.278  | 1         | 1.345     | 6           | 8                 | 1     |
| 14   | SW 122 AVE / SW 120 ST            | 8,9   | 5     | Unincorp           | 47      | 7         | 2.714  | 2         | 1.380     | 4           | 13                | 2     |
| 15   | SW 137 AVE / SW 26 ST (Coral Way) | 11    | 4     | Unincorp           | 53      | 4         | 1.965  | 7         | 1.225     | 9           | 20                | 3     |
| 10   | SW 117 AVE / SW 104 ST            | 8     | 5     | Unincorpo          | 63      | 2         | 1.853  | 9         | 1.205     | 11          | 22                | 4     |
| 18   | SW 137 AVE / SW 152 ST            | 9,11  | 5     | Unincorp           | 60      | 3         | 1.861  | 8         | 1.182     | 13          | 24                | 5     |
| 6    | NW 107 AVE / NW 12 ST             | 12    | 1     | Doral/Unincor<br>p | 52      | 5         | 1.656  | 11        | 1.191     | 12          | 28                | 6     |
| 20   | SW 152 AVE / SW 72 ST             | 11    | 5     | Unincorp           | 30      | 16        | 2.112  | 6         | 1.333     | 7           | 29                | 7     |
| 3    | NW 79 AVE / NW 36 ST              | 12    | 1     | Doral              | 51      | 6         | 2.302  | 5         | 1.118     | 18          | 29                | 8     |
| 16   | SW 137 AVE / SW 56 ST             | 10,11 | 5     | Unincorp           | 45      | 9         | 1.418  | 16        | 1.370     | 5           | 30                | 9     |
| 2    | NW 79 AVE / NW 25 ST              | 12    | 1     | Doral              | 41      | 10        | 2.490  | 3         | 1.122     | 17          | 30                | 10    |
| 1    | NW 67 AVE / NW 169 ST             | 13    | 3     | Unincorp           | 47      | 7         | 1.587  | 14        | 1.214     | 10          | 31                | 11    |
| 19   | SW 147 AVE / SW 104 ST            | 11    | 5     | Unincorp           | 27      | 17        | 1.574  | 15        | 1.556     | 1           | 33                | 12    |
| 8    | S. Hammocks Blvd. / SW 104 ST     | 11    | 5     | Unincorp           | 21      | 20        | 1.591  | 13        | 1.524     | 2           | 35                | 13    |
| 5    | NW 87 AVE / NW 25 ST              | 12    | 1     | Doral              | 41      | 10        | 1.777  | 10        | 1.148     | 15          | 35                | 14    |
| 11   | SW 117 AVE / SW 120 ST            | 8     | 5     | Unincorp           | 34      | 13        | 2.437  | 4         | 1.088     | 20          | 37                | 15    |
| 17   | SW 137 AVE / SW 136 ST            | 9,11  | 5     | Unincorp           | 38      | 12        | 1.599  | 12        | 1.132     | 16          | 40                | 16    |
| 9    | SW 97 AVE / SW 24 ST              | 10    | 1     | Unincorp           | 22      | 19        | 1.174  | 19        | 1.448     | 3           | 41                | 17    |
| 13   | SW 122 AVE / SW 26 ST (Coral Way) | 10,11 | 4     | Unincorp           | 26      | 18        | 1.395  | 17        | 1.308     | 8           | 43                | 18    |
| 4    | NW 79 AVE / NW 58 ST              | 12    | 1     | Doral/Unincor<br>p | 33      | 14        | 1.140  | 20        | 1.170     | 14          | 48                | 19    |
| 7    | NW 107 AVE / NW 41 ST             | 12    | 1     | Doral              | 32      | 15        | 1.197  | 18        | 1.094     | 19          | 52                | 20    |

# Table 3 – Ranking of Locations

# 2.5. Possible Crash Causes and Probable Countermeasures

In this section, a description of possible cause(s) for each type of crash along with suggested countermeasure(s) is provided in *Table 4*.



| Collision<br>Type             | Possible Causes   | Probable Countermeasures   |
|-------------------------------|---|--|
| Rear End                      | <ol> <li>(1) Large number of turning vehicles</li> <li>(2) Slippery surface</li> <li>(3) Poor visibility of signal</li> <li>(4) Inadequate signal timing</li> <li>(5) Lack of signal coordination</li> <li>(6) Inadequate roadway lighting</li> <li>(7) Crossing pedestrians</li> <li>(8) Presence/Location of driveways</li> </ol> | <ol> <li>Prohibit turns</li> <li>Improve turn storage capacity</li> <li>Reduce speed limits</li> <li>Install or improve signs</li> <li>Improve pavement conditions</li> <li>Improve signal timing/coordination</li> <li>Improve pedestrian crossing</li> <li>Improve driveway design/location</li> </ol>   |
| Angle                         | <ul> <li>(9) Restricted sight distance</li> <li>(10) Excessive speed on approach</li> <li>(11) Inadequate advanced warning</li> <li>(12) Large total intersection volume</li> <li>In addition to #(3), #(4), #(6) and #(8)</li> </ul>   | <ul> <li>9. Improve sight distance</li> <li>10. Adjust amber phase</li> <li>11. Install all red clearance phase</li> <li>12. Improve roadway lighting</li> <li>In addition to #3, #4, #6 and #8</li> </ul>   |
| Left Turn                     | <ul> <li>(13) Large volume of left-turns</li> <li>(14) Too short amber phase</li> <li>(15) Absence of left-turning phase</li> <li>In addition to #(4), #(6), #(8), #(9) and #(10)</li> </ul>  | <ul> <li>13. Provide/lengthen/add modify turn lanes</li> <li>14. Provide protected phase if justified</li> <li>15. Provide turning guidelines for multiple<br/>turn lanes</li> <li>16. Reduce the offset between opposing left<br/>turn lanes</li> <li>17. Install or improve warning signs</li> <li>In addition to #6, #9, #11 and #12</li> </ul> |
| Sideswipe                     | <ul> <li>(16) Inadequate roadway design</li> <li>(17) Excessive vehicle Speed</li> <li>(18) Inadequate pavement markings</li> <li>(19) Inadequate channelization</li> <li>(20) Inadequate signing</li> <li>(21) Improper road maintenance</li> </ul>  | <ul> <li>18. Provide wider lanes</li> <li>19. Improve pavement markings</li> <li>20. Improve alignment and grade</li> <li>21. Install/improve channelization</li> <li>22. Install direction/warning signs</li> <li>In addition to #3 and #4</li> </ul>   |
| Pedestrian<br>with<br>Vehicle | In addition to #(8)<br>(22) Inadequate protection for pedestrians<br>(23) Inadequate Signals<br>(24) Inadequate Phasing Signal<br>In addition to #(6), #(9), #(17) and<br>#(18)   | <ul> <li>23. Provide/improve sidewalks</li> <li>24. Provide improve crosswalks</li> <li>25. Provide pedestrian signal</li> <li>26. Improve pedestrian phase</li> <li>27. Provide raised median as refuge</li> <li>In addition to #3, #4 and #11</li> </ul>   |
| Fixed<br>Object               | <ul> <li>(25) Obstruction in/too close to roadway</li> <li>In addition to #(2), #(6), #(11), #(16), #(17), #(18), and #(20)</li> </ul>  | 28. Remove/relocate fixed object<br>In addition to #3, #5, #12, #17, #18, #19<br>and #20   |

| Table 4 – General ( | Crash Causes and | Countermeasures |
|---------------------|------------------|-----------------|
|---------------------|------------------|-----------------|



### **3. STUDY LOCATIONS**

This section provides a crash analysis at each of the study intersections. Furthermore, this section includes field observation reports for each of the study intersections. The field observation reports are used to verify if field conditions such as signal operation, pavement markings, geometry of the intersection or any other existing condition supports the probable cause developed through the study.

## 3.1. SW 117 Avenue and SW 152 Street

### 3.1.1. Site Description

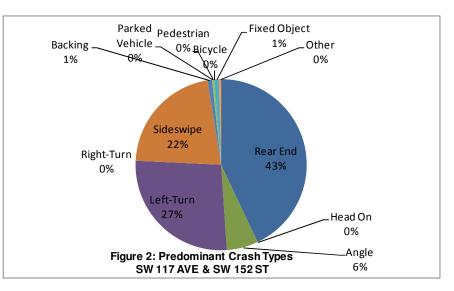
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 117 Avenue is a four lane urban arterial divided by a raised median that runs north-south, and SW 152 Street (Coral Reef Drive) is a four lane urban arterial divided by a raised median that runs east-west.

#### 3.1.2. Safety Conditions and Analysis

The intersection of SW 117 Avenue and SW 152 Street is ranked number 1 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 235 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 78. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 2*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the study intersection in



relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 5* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.



|                         |  |                           |                 |            |                           |            | SW 152            |                               |                 |   |                       |                                      |                |
|-------------------------|--|---------------------------|-----------------|------------|---------------------------|------------|-------------------|-------------------------------|-----------------|---|-----------------------|--------------------------------------|----------------|
|                         |  | (4 Lane                   | x 4 Lane,       | Signaliz   | ed, With Tu               | irn Lanes, | 4 Leg Inters      | ection -Table                 | e 28) - URBAN   | N Spot                                    |                       |                                      |                |
|                         | TYPE OF CRASH                                  | NUMBE                     | R OF CR<br>YEAR | ASHES      | 3 YEAR<br>TOTAL           | %<br>of    | MEAN<br>Accidents |                               | ANNUAL CF       | ASH VALUE                                 |                       | ALLY HIGH<br>90th                    | CRASHE<br>95th |
|                         |  | 2006                      | 2007            | 2008       | CRASHE                    | Total      | per Year          | MEAN                          | Percentile      | Percentile                                | Mean                  | Percentil                            | Percent        |
| OLLISION TYPE           | Rear End<br>Head On                            | 36<br>0                   | 36<br>0         | 29<br>0    | 101<br>0                  | 21%<br>0%  | 33.67<br>0.00     | 5.70<br>0.33                  | 16.96<br>1.02   | 19.12<br>1.15                             | Х                     | X                                    | X              |
|                         | Angle  | 7                         | 5               | 2          | 14                        | 2%         | 4.67              | 3.05                          | 7.08            | 7.85                                      | х                     |                                      |                |
|                         | Left Turn                                      | 15                        | 20              | 28         | 63                        | 11%        | 21.00             | 1.67                          | 4.02            | 4.47                                      | X                     | X                                    | х              |
|                         | Right Turn                                     | 0                         | 0               | 0          | 0                         | 0%         | 0.00              | 0.33                          | 1.25            | 1.42                                      |                       |                                      |                |
|                         | Sideswipe<br>Backed Into                       | 22                        | 11              | 18         | 51                        | 7%<br>0%   | 17.00<br>0.67     | 1.60                          | 4.64<br>0.56    | 5.22                                      | X                     | X                                    | X              |
|                         | Backed Into<br>Coll. w/ Parked Car             | 2                         | 0               | 0          | 2                         | 0%         | 0.07              | 0.17                          | 0.56            | 0.63                                      | ^                     | ^                                    | x              |
|                         | Coll. w/ Pedestrian                            | Ő                         | 0               | 1          | 1                         | 0%         | 0.33              | 0.28                          | 1.04            | 1.19                                      | х                     |                                      |                |
|                         | Coll. w/ Bicycle                               | 0                         | 0               | 0          | 0                         | 0%         | 0.00              | 0.09                          | 0.33            | 0.38                                      |                       |                                      |                |
|                         | Fixed Object                                   | 1                         | 0               | 1          | 2                         | 0%         | 0.67              | 0.03                          | 0.21            | 0.24                                      | Х                     | Х                                    | X              |
|                         | Ran Off Road<br>Overtuned                      | 0                         | 0               | 0          | 0                         | 0%<br>0%   | 0.00              | 0.00                          | 0.00            | 0.00                                      |                       |                                      |                |
|                         | Other  | 0                         | 1               | 0          | 1                         | 0%         | 0.33              | 3.70                          | 8.83            | 9.82                                      |                       |                                      |                |
|                         | Total Crashes                                  | 83 📰                      | 73 🖵            | 79 🗸       | 235                       | 23%        | 78.33             | 17.77                         | 40.96           | 45.39                                     | Х                     | Х                                    | Х              |
| SEVERITY                | PDO crashes                                    | 77                        | 65              | 66         | 208                       | 89%        | 69.33             | 9.93                          | 22.30           | 24.67                                     | X                     | X                                    | X              |
|                         | Fatal crashes<br>Injury crashes                | 0                         | 0               | 0          | 0<br>27                   | 0%<br>11%  | 0.00<br>9.00      | 0.05                          | 0.26 33.08      | 0.29 36.90                                |                       |                                      |                |
| IGHT CONDITIONS         | Day Light                                      | 60                        | •<br>48         | 59         | 167                       | 71%        | 9.00<br>55.67     | 12.40                         | 29.18           | 36.90                                     | х                     | x                                    | x              |
|                         | Dusk   | 4                         | 1               | 0          | 5                         | 2%         | 1.67              | 0.28                          | 0.87            | 0.98                                      | Х                     | Х                                    | х              |
|                         | Dawn   | 0                         | 3               | 2          | 5                         | 2%         | 1.67              | 0.17                          | 0.56            | 0.63                                      | X                     | X                                    | X              |
|                         | Dark   | 19                        | 20              | 18         | 57                        | 24%        | 19.00             | 4.56                          | 10.53           | 11.68                                     | Х                     | Х                                    | X              |
| SURFACE CONDITIONS      | Unknown<br>Dry                                 | 0<br>62                   | 1<br>68         | 0<br>75    | 1<br>205                  | 0%<br>87%  | 0.33 68.33        | 0.35                          | 1.05<br>34.45   | 1.18<br>38.12                             | х                     | x                                    | x              |
|                         | Wet  | 5                         | 4               | 4          | 13                        | 6%         | 4.33              | 2.10                          | 6.02            | 6.76                                      | x                     | Ê                                    | ⊢ ^            |
|                         | Others   | 16                        | 1               | 0          | 17                        | 7%         | 5.67              | 0.37                          | 1.10            | 1.24                                      | Х                     | Х                                    | х              |
| MONTH OF A YEAR         | January  | 1                         | 6               | 3          | 10                        | 4%         | 3.33              | 1.42                          | 3.33            | 3.69                                      | X                     | X                                    | ,              |
|                         | February<br>March                              | 8<br>10                   | 9<br>14         | 9<br>8     | 26<br>32                  | 11%<br>14% | 8.67<br>10.67     | 1.42<br>1.67                  | 3.53<br>4.12    | 3.93<br>4.59                              | X                     | X                                    | X              |
|                         | April  | 8                         | 4               | 7          | 19                        | 8%         | 6.33              | 1.30                          | 3.21            | 3.57                                      | x                     | x                                    | <del>- x</del> |
|                         | May  | 7                         | 6               | 7          | 20                        | 9%         | 6.67              | 1.74                          | 4.46            | 4.99                                      | Х                     | х                                    | Х              |
|                         | June   | 6                         | 5               | 8          | 19                        | 8%         | 6.33              | 1.38                          | 3.49            | 3.90                                      | Х                     | Х                                    | Х              |
|                         | July   | 9                         | 7               | 5          | 21                        | 9%         | 7.00              | 1.35                          | 3.22            | 3.58                                      | X                     | X                                    | X              |
|                         | August<br>September                            | 9                         | 7<br>6          | 7          | 23<br>20                  | 10%<br>9%  | 7.67<br>6.67      | 1.56<br>1.46                  | 3.99<br>3.73    | 4.46<br>4.16                              | X<br>X                | X<br>X                               | X              |
|                         | October  | 9                         | 2               | 6          | 17                        | 7%         | 5.67              | 1.47                          | 3.59            | 4.00                                      | X                     | x                                    | x              |
|                         | November                                       | 4                         | 4               | 8          | 16                        | 7%         | 5.33              | 1.39                          | 3.53            | 3.94                                      | Х                     | Х                                    | Х              |
|                         | December                                       | 5                         | 3               | 4          | 12                        | 5%         | 4.00              | 1.61                          | 4.43            | 4.97                                      | X                     |                                      |                |
| DAY OF THE WEEK         | Sunday<br>Monday                               | 14<br>6                   | 15<br>6         | 9<br>10    | 38<br>22                  | 16%<br>9%  | 12.67<br>7.33     | 2.70<br>2.49                  | 6.42<br>6.18    | 7.13<br>6.88                              | X<br>X                | X<br>X                               | X              |
|                         | Tuesday  | 18                        | 10              | 10         | 38                        | 16%        | 12.67             | 2.49                          | 5.84            | 6.47                                      | X                     | x                                    | Â              |
|                         | Wednesday                                      | 8                         | 10              | 13         | 31                        | 13%        | 10.33             | 2.88                          | 7.20            | 8.03                                      | X                     | X                                    | X              |
|                         | Thursday                                       | 10                        | 14              | 12         | 36                        | 15%        | 12.00             | 3.07                          | 7.50            | 8.35                                      | X                     | X                                    | X              |
|                         | Friday   | 14                        | 8               | 14         | 36                        | 15%        | 12.00             | 2.61                          | 6.40            | 7.13                                      | X                     | X                                    | X              |
| HOUR OF THE DAY         | Saturday<br>00:00-06:00                        | 13                        | 10<br>5         | 11<br>2    | 34<br>14                  | 14%<br>6%  | 11.33<br>4.67     | 1.46<br>1.70                  | 3.47<br>3.39    | 3.85<br>3.71                              | X                     | X                                    | X              |
|                         | 06:00-09:00                                    | 8                         | 6               | 10         | 24                        | 10%        | 8.00              | 1.98                          | 5.12            | 5.72                                      | X                     | x                                    | x              |
|                         | 09:00-11:00                                    | 9                         | 6               | 10         | 25                        | 11%        | 8.33              | 1.72                          | 4.23            | 4.71                                      | Х                     | Х                                    | Х              |
|                         | 11:00-13:00                                    | 14                        | 7               | 10         | 31                        | 13%        | 10.33             | 2.40                          | 6.30            | 7.05                                      | X                     | X                                    | X              |
|                         | 13:00-15:00<br>15:00-18:00                     | 20                        | 7<br>19         | 12<br>12   | 26<br>51                  | 11%<br>22% | 8.67<br>17.00     | 1.95<br>3.58                  | 5.32<br>7.81    | 5.96<br>8.62                              | X<br>X                | X<br>X                               | X<br>X         |
|                         | 18:00-24:00                                    | 18                        | 23              | 23         | 64                        | 27%        | 21.33             | 4.42                          | 10.63           | 11.82                                     | X                     | x                                    | x              |
|                         |  |                           |                 |            |                           | ,.         |                   |                               |                 |   |                       |                                      |                |
|                         |  |                           |                 |            | 1                         | YEAR       |                   | 3-Year                        | 1               |   |                       |                                      |                |
|                         |  |                           |                 |            | 1                         | 2          | 3                 | Average                       |                 |   |                       |                                      |                |
| Average Daily Traffic A | ADT (Vehicles ner F                            | lav)                      |                 |            | 78,058                    | 79,651     | 81,277            | 79,662                        | 1               |   |                       |                                      |                |
|                         |  |                           | Analas M.       | hists - 1  |                           |            |                   |                               | 4               |   |                       |                                      |                |
| Iorida Average Crash    | n rate (Urashes per l                          | villion En                | tering Vel      | iicies)    | 0.420                     | 0.424      | 0.394             | 0.413                         | 4               |   |                       |                                      |                |
| Fraffic Base            |  |                           |                 |            | 28.491                    | 29.073     | 29.666            | 29.077                        |                 |   |                       |                                      |                |
| Actual Crash Rate (Cr   | rashes per Million E                           | ntering V                 | ehicles)        |            | 2.913                     | 2.511      | 2.663             | 2.696                         | 1               |   |                       |                                      |                |
| Critical Crash Rate (C  | Crashes per Million E                          | ntering V                 | ehicles)        |            | 0.837                     | 0.839      | 0.790             | 0.822                         | 1               |   |                       |                                      |                |
| Safety Ratio            | ,  | 3.                        | /               |            | 3.480                     | 2.995      | 3.371             | 3.282                         | 1               |   |                       |                                      |                |
|                         |  |                           |                 |            |                           |            |                   |                               | -               |   |                       |                                      |                |
| High Crash Location     | 177  |                           |                 |            | YES                       | YES        | YES               | YES                           |                 |   |                       |                                      |                |
| Actual Crash            | $Rate = \frac{A \times 1,00}{V}$               | 0,000                     |                 |            | al number o<br>rage Annua |            |                   | fcrashes by                   | v type occurrin | ng in a 1 year                            | period.               |                                      |                |
| CriticalCrashRa         | $ate = AVR + \frac{0.5}{TB} + 2$               | $TF\sqrt{\frac{AVH}{TB}}$ | R               | TB = Trans | affic Base                |            | ash Rate for      | a particular                  | type of interse | ection or road                            |                       | nt.<br>Constant Z                    | ٦              |
| Traffic Base =          | $\frac{Years \times ADT \times 30}{1,000,000}$ | 65                        |                 | = 1.       |                           | 95% Cor    |                   | el for RURAL<br>Level for URL |                 | 68.30<br>86.60<br>90.00<br>95.00<br>95.50 | D<br>D<br>D<br>D<br>D | 1.00<br>1.50<br>1.64<br>1.96<br>2.00 | 1              |
| Safety Ratio            | $= \frac{Actual Crash}{Critical Crash}$        | h Rate<br>h Rate          | -               |            |                           |            |                   |                               |                 | 98.80<br>99.00<br>99.70<br>99.95          | D<br>D                | 2.50<br>2.58<br>3.00<br>3.29         |                |

# Table 5 – Crash Analysis – SW 117 Avenue and SW 152 Street



# Table 6 – Abnormal Crash Details & CountermeasuresSW 117 Avenue and SW 152 Street

|                         |                     |   | 17 Aven                                 |             |             |               |                   |                      |           |          |
|-------------------------|---------------------|---|---|-------------|-------------|---------------|-------------------|----------------------|-----------|----------|
|                         | (4 Lane x 4 L       | ane, Signalized, V  | Vith Turn La                            | anes, 4 Le  | eg Interse  | ction -Table  | e 28) - UR        | BAN Spot             |           |          |
|                         |                     |   |   |             |             |               |                   |                      |           |          |
|                         |                     |   | NUMBE                                   | ER OF CF    | ASHES       | 3 YEAR        | %                 | MEAN                 | Possible  | Counte   |
|                         |                     |   |   | YEAR        |             | TOTAL         | of                | Accidents            | Cause(s)  | measure  |
|                         |                     |   | 2006                                    | 2007        | 2008        | CRASHE        | Total             | per Year             | 000000(3) | measure  |
|                         | Total Rear Er       | nd Crashes  | 36                                      | 36          | 29          | 101           | 100%              | 33.67                | (1)       | 2        |
|                         |                     | Day Light   | 28                                      | 26          | 25          | 79            | 78%               | 26.33                | (4)       | 4        |
|                         | Lighting Conditions | Dawn  | 2                                       | 1           | 0           | 3             | 3%                | 1.00                 | (8)       | 5        |
|                         |                     | Dark  | 6                                       | 9           | 4           | 19            | 19%               | 6.33                 | . ,       | 6        |
|                         |                     | 00:00 - 06:00   | 2                                       | 3           | 1           | 6             | 6%                | 2.00                 |           | 8        |
|                         |                     | 06:00 - 09:00   | 4                                       | 3           | 2           | 9             | 9%                | 3.00                 |           |          |
|                         |                     | 09:00 - 11:00   | 3                                       | 3           | 5           | 11            | 11%               | 3.67                 |           |          |
| Rear End                | Hours of Day        | 11:00 - 13:00   | 8                                       | 5           | 6           | 19            | 19%               | 6.33                 |           |          |
| near Litu               |                     | 13:00 - 15:00   | 3                                       | 4           | 5           | 12            | 12%               | 4.00                 |           |          |
|                         |                     | 15:00 - 18:00   | 12                                      | 11          | 5           | 28            | 28%               | 9.33                 |           |          |
|                         |                     | 18:00 - 24:00   | 4                                       | 7           | 5           | 16            | 16%               | 5.33                 |           |          |
|                         |                     | North   | 6                                       | 7           | 3           | 16            | 16%               | 5.33                 |           |          |
|                         |                     | South   | 7                                       | 5           | 4           | 16            | 16%               | 5.33                 |           |          |
|                         | Direction           | East  | 13                                      | 17          | 15          | 45            | 45%               | 15.00                |           |          |
|                         |                     | West  | 10                                      | 7           | 7           | 24            | 24%               | 8.00                 |           |          |
|                         |                     | Unknown   | 0                                       | 0           | 0           | 0             | 0%                | 0.00                 |           |          |
|                         |                     |   |   |             |             |               |                   |                      |           |          |
|                         |                     |   | NUMB                                    | ER OF CF    | ASHES       | 3 YEAR        | %                 | MEAN                 | Dessible  | 0        |
|                         |                     |   | -                                       | YEAR        |             | TOTAL         | of                | Accidents            | Possible  | Counte   |
|                         |                     |   | 2006                                    | 2007        | 2008        | CRASHE        | Total             | per Year             | Cause(s)  | measure  |
|                         | Total Left Tu       | m Crachoc   | 15                                      | 2007        | 28          | 63            | 100%              | 21.00                | (4)       | 9        |
|                         | Total Leit Tu       |   |   | -           | -           |               |                   |                      | (4)       |          |
|                         | Lighting Conditions | Day Light<br>Dawn   | 8                                       | 11          | 14<br>1     | 33<br>2       | 52%<br>3%         | 11.00<br>0.67        | (9)       | 13<br>15 |
|                         | Lighting Conditions | Dark  | 7                                       | 8           | 13          | 28            | 44%               | 9.33                 | (13)      | 15       |
|                         |                     | 00:00 - 06:00   | 1                                       | 0<br>1      | 1           | 3             | 5%                | 1.00                 |           | 10       |
|                         |                     | 06:00 - 09:00   | 2                                       | 1           | 4           | 7             | 11%               | 2.33                 |           |          |
|                         |                     | 09:00 - 11:00   | 1                                       | 0           | 4           | 2             | 3%                | 0.67                 |           |          |
|                         | Hours of Day        | 11:00 - 13:00   | 1                                       | 1           | 1           | 3             | 5%                | 1.00                 |           |          |
| Left Turn               | riouis of Day       | 13:00 - 15:00   | 1                                       | 1           | 4           | 6             | 10%               | 2.00                 |           |          |
|                         |                     | 15:00 - 18:00   | 1                                       | 4           | 3           | 8             | 13%               | 2.67                 |           |          |
|                         |                     | 18:00 - 24:00   | 8                                       | 12          | 14          | 34            | 54%               | 11.33                |           |          |
|                         |                     | $NB \rightarrow WB$   | 2                                       | 1           | 5           | 8             | 13%               | 2.67                 |           |          |
|                         |                     | $WB \rightarrow SB$   | 8                                       | 16          | 18          | 42            | 67%               | 14.00                |           |          |
|                         | Direction           | $SB \rightarrow EB$   | 2                                       | 1           | 3           | 6             | 10%               | 2.00                 |           |          |
|                         | Direction           | $EB \rightarrow NB$   | 3                                       | 2           | 2           | 7             | 11%               | 2.33                 |           |          |
|                         |                     | Unknown   | 0                                       | 0           | 0           | 0             | 0%                | 0.00                 |           |          |
|                         |                     | C. I. | , i i i i i i i i i i i i i i i i i i i | , v         | , v         | Ŭ             | 0,0               | 0.00                 |           |          |
|                         |                     |   |   | ER OF CF    |             |               | %                 | MEAN                 |           |          |
|                         |                     |   | NUMBE                                   |             | ASHES       | 3 YEAR        |                   | MEAN                 | Possible  | Counte   |
|                         |                     |   |   | YEAR        |             | TOTAL         | of                | Accidents            | Cause(s)  | measure  |
|                         | -                   |   | 2006                                    | 2007        | 2008        | CRASHE        | Total             | per Year             | .,        |          |
|                         | Total Sideswi       | 1   | 22                                      | 11          | 18          | 51            | 100%              | 17.00                | (8)       | 4        |
|                         |                     | Day Light   | 21                                      | 9           | 16          | 46            | 90%               | 15.33                | (19)      | 19       |
|                         | Lighting Conditions | Dawn  | 0                                       | 2           | 1           | 3             | 6%                | 1.00                 | (20)      | 20       |
|                         |                     | Dark  | 1                                       | 0           | 1           | 2             | 4%                | 0.67                 | (21)      | 22       |
|                         |                     | 00:00 - 06:00   | 0                                       | 0           | 0           | 0             | 0%                | 0.00                 |           |          |
|                         |                     | 06:00 - 09:00   | 2                                       | 1           | 4           | 7             | 14%               | 2.33                 |           |          |
|                         | Linux (D)           | 09:00 - 11:00   | 4                                       | 2           | 2           | 8             | 16%               | 2.67                 |           |          |
| Sidegwine               | Hours of Day        | 11:00 - 13:00   | 4                                       | 1           | 4           | 9             | 18%               | 3.00                 |           |          |
| Sideswipe               | · · · ·             | 13:00 - 15:00   | 4                                       | 1           | 2           | 7             | 14%               | 2.33                 |           |          |
| Sideswipe<br>(Overtake) |                     | 15.00   | 4                                       | 3           | 3           | 10            | 20%               | 3.33                 |           |          |
| -                       | , í                 | 15:00 - 18:00   |   |             |             |               | 20%               | 3.33                 |           | l I      |
| -                       |                     | 18:00 - 24:00   | 4                                       | 3           | 3           | 10            |                   |                      |           |          |
| -                       |                     | 18:00 - 24:00<br>North  | 4                                       | 4           | 2           | 9             | 18%               | 3.00                 |           |          |
| -                       |                     | 18:00 - 24:00<br>North<br>South   | 4<br>3<br>5                             | 4<br>1      | 2<br>4      | 9<br>10       | 18%<br>20%        | 3.00<br>3.33         |           |          |
| -                       | Direction           | 18:00 - 24:00<br>North<br>South<br>East   | 4<br>3<br>5<br>12                       | 4<br>1<br>3 | 2<br>4<br>7 | 9<br>10<br>22 | 18%<br>20%<br>43% | 3.00<br>3.33<br>7.33 |           |          |
| -                       |                     | 18:00 - 24:00<br>North<br>South   | 4<br>3<br>5                             | 4<br>1      | 2<br>4      | 9<br>10       | 18%<br>20%        | 3.00<br>3.33         |           |          |

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 3.480, 2.995, and 3.371, respectively. The safety ratio for the three years averaged 3.282. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.



From this analysis it was determined that rear end, left-turn, sideswipe and fixed object collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 6*.

#### 3.1.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 117 Avenue and SW 152 Street were performed on a typical weekday on November 11, 2010. A summary of the traffic data is presented in *Figure 3*, and field review is presented in *Figure 4*.

Capacity analysis was conducted for AM and PM traffic peak hours to evaluate existing conditions as well as improvements. *Table 7* depicts the analysis performed using Synchro 6.0. An assessment of Level of Services (LOS) analysis for peak periods indicated that this intersection is operating at LOS D during both AM and PM peaks. In addition, these analyses indicated that the northbound movement is operating under substantial delay that generates failing conditions (LOS E & F) during the AM and PM peak hours. Also, the analyses concluded that in addition to the northbound, the eastbound is under failing condition (LOS E) during the AM peak.

The results of the improvement and signal retiming/optimization yielded benefits for both AM and PM periods. This was achieved by increasing the northbound/southbound split and modifying the left/through overlaps. Although the overall LOS remained at D during AM and PM peaks, the overall and the approaches delays were improved with minor degradation to the southbound/westbound approaches.

|    |        |       |    | EB |     | WB |    |    | NB  |     |    |    | SB  |    |    |   | Overall |    |
|----|--------|-------|----|----|-----|----|----|----|-----|-----|----|----|-----|----|----|---|---------|----|
|    |        |       | L  | TR | Арр | L  | Т  | R  | Арр | L   | Т  | R  | Арр | L  | Т  | R | Арр     |    |
|    | Eviat  | LOS   | F  | С  | Е   | D  | Е  | В  | D   | F   | Е  | С  | Е   | D  | D  | Α | С       | D  |
| АМ | Exist. | Delay | 96 | 34 | 62  | 39 | 60 | 16 | 54  | 91  | 58 | 20 | 61  | 39 | 55 | 0 | 22      | 53 |
|    | Modif. | LOS   | Е  | С  | D   | D  | Е  | В  | Е   | F   | Е  | С  | E   | D  | Е  | А | С       | D  |
|    |        | Delay | 64 | 27 | 44  | 46 | 80 | 18 | 72  | 86  | 59 | 20 | 60  | 49 | 61 | 0 | 24      | 47 |
|    | Eviat  | LOS   | Е  | С  | D   | D  | D  | Α  | D   | F   | D  | В  | F   | D  | Е  | Α | С       | D  |
| РМ | Exist. | Delay | 68 | 30 | 40  | 40 | 37 | 10 | 40  | 256 | 49 | 11 | 107 | 36 | 61 | 4 | 24      | 44 |
|    | Modif. | LOS   | Е  | D  | D   | D  | D  | В  | D   | Е   | D  | Α  | D   | С  | Е  | Α | С       | D  |
|    |        | Delay | 66 | 39 | 46  | 49 | 50 | 13 | 49  | 60  | 42 | 7  | 41  | 34 | 59 | 4 | 20      | 38 |

Table 7 – Capacity Analysis – SW 117 Avenue and SW 152 Street





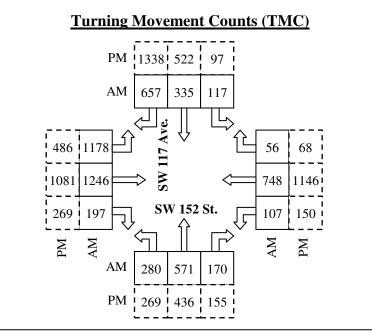


Figure 3: Traffic Data – SW 117 Avenue and SW 152 Street





Westbound approach: Sight distance obstruction to left-turn traffic.



Eastbound/Westbound: Left-turn lanes are not aligned to reduce the offset.



Eastbound approach: Tire skid marks.



Eastbound approach: Red light running.



Figure 4: Field Review – SW 117 Avenue and SW 152 Street



#### 3.1.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 117 Avenue and SW 152 Street, the following is recommended:

- Realignment of the westbound left-turn lane south of its current location to reduce the offset and line-up with the opposite eastbound left-turn lane.
- Provide turning guidelines for the westbound left-turn lane.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Closing the median opening on the east leg, and lengthen the westbound left-turn lane.
- Converting the southbound shared thru-right lane to a thru only lane.
- Installing new lane use signs for southbound approach.
- Resurfacing the eastbound approach.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 5.



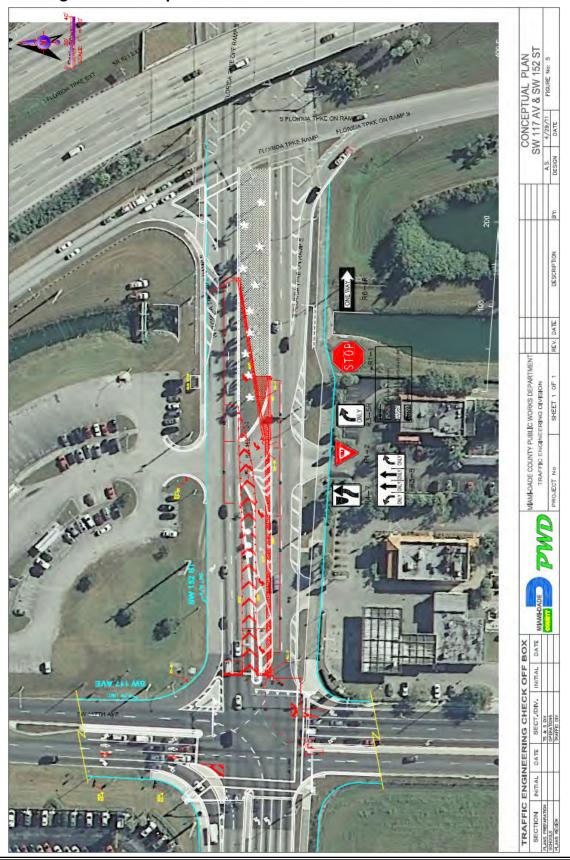


Figure 5: Conceptual Plan – SW 117 Avenue and SW 152 Street

Safety Studies at High Crash Locations Countywide



#### 3.2. SW 122 Avenue and SW 120 Street

#### 3.2.1. Site Description

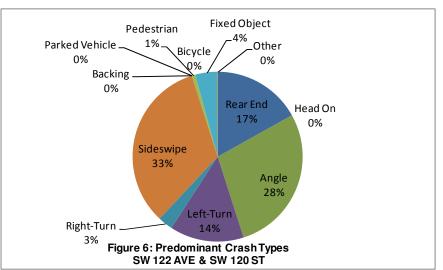
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 122 Avenue is a four lane major collector divided by a paved median that runs north-south, and SW 120 Street is a four lane major collector divided by a raised median that runs east-west.

#### 3.2.2. Safety Conditions and Analysis

The intersection of SW 122 Avenue and SW 120 Street is ranked number 2 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 142 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 47. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 6*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 8* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 2.011, 3.656, and 2.453, respectively. The safety ratio for the three years averaged 2.707. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that angle, left-turn, sideswipe and fixed object collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 9*.



|                         | · · ·   | 20110 / 1                 | Lune, oli    | gnanzeu, |                           | Lanes, 4 L             | eg intersecti         |                | abiezo ) - 01 ii   | BAN Spot           |           |                   |                  |
|-------------------------|---|---------------------------|--------------|----------|---------------------------|------------------------|-----------------------|----------------|--------------------|--------------------|-----------|-------------------|------------------|
|                         |   | NUMBE                     | R OF CF      | ASHES    | 3 YEAR                    | %                      | MEAN                  | EXPECTED       | ANNUAL CF          | ASH VALUE          | ABNORM    | ALLY HIGH         | CRASHES          |
|                         | TYPE OF CRASH                                 | 2006                      | YEAR<br>2007 | 2008     | TOTAL                     | of<br>Total            | Accidents<br>per Year | MEAN           | 90th<br>Percentile | 95th<br>Percentile | Mean      | 90th<br>Percentil | 95th<br>Percenti |
| COLLISION TYPE          | Rear End                                      | 4                         | 12           | 8        | 24                        | 8%                     | 8.00                  | 5.70           | 16.96              | 19.12              | х         | Fercentin         | Fercenti         |
|                         | Head On                                       | 0                         | 0            | 0        | 0                         | 0%                     | 0.00                  | 0.33           | 1.02               | 1.15               |           |                   |                  |
|                         | Angle   | 11                        | 23           | 6        | 40                        | 10%                    | 13.33                 | 3.05           | 7.08               | 7.85               | X         | X                 | X                |
|                         | Left Turn<br>Right Turn                       | 8                         | 5<br>2       | 7        | 20<br>4                   | 6%<br>1%               | 6.67<br>1.33          | 1.67<br>0.33   | 4.02               | 4.47<br>1.42       | X         | X<br>X            | Х                |
|                         | Sideswipe                                     | 10                        | 23           | 14       | 4                         | 11%                    | 15.67                 | 1.60           | 4.64               | 5.22               | X         | x                 | x                |
|                         | Backed Into                                   | 0                         | 0            | 0        | 0                         | 0%                     | 0.00                  | 0.17           | 0.56               | 0.63               | ~         | ~                 | ^                |
|                         | Coll. w/ Parked Car                           | 0                         | 0            | 0        | 0                         | 0%                     | 0.00                  | 0.10           | 0.51               | 0.59               |           |                   |                  |
|                         | Coll. w/ Pedestrian                           | 1                         | 0            | 0        | 1                         | 0%                     | 0.33                  | 0.28           | 1.04               | 1.19               | Х         |                   |                  |
|                         | Coll. w/ Bicycle                              | 0                         | 0            | 0        | 0                         | 0%                     | 0.00                  | 0.09           | 0.33               | 0.38               |           |                   |                  |
|                         | Fixed Object<br>Ran Off Road                  | 0                         | 0            | 6<br>0   | 6<br>0                    | 1%<br>0%               | 2.00<br>0.00          | 0.03           | 0.21               | 0.24 0.00          | X         | X                 | x                |
|                         | Overtuned                                     | 0                         | 0            | 0        | 0                         | 0%                     | 0.00                  | 0.00           | 0.00               | 0.24               |           |                   |                  |
|                         | Other   | 0                         | 0            | 0        | ŏ                         | 0%                     | 0.00                  | 3.70           | 8.83               | 9.82               |           |                   |                  |
|                         | Total Crashes                                 | 35                        | 65           | 42       | 142                       | 23%                    | 47.33                 | 17.77          | 40.96              | 45.39              | Х         | х                 | Х                |
| SEVERITY                | PDO crashes                                   | 31                        | 57           | 36       | 124                       | 87%                    | 41.33                 | 9.93           | 22.30              | 24.67              | Х         | Х                 | Х                |
|                         | Fatal crashes                                 | 0                         | 0            | 0        | 0                         | 0%                     | 0.00                  | 0.05           | 0.26               | 0.29               |           |                   |                  |
| IGHT CONDITIONS         | Injury crashes                                | 4                         | 8            | 6        | 18<br>93                  | 13%<br>65%             | 6.00                  | 13.14          | 33.08              | 36.90              | х         | x                 | I                |
|                         | Day Light<br>Dusk                             | 18<br>0                   | 45<br>2      | 30<br>0  | 93                        | 65%<br>1%              | 31.00<br>0.67         | 12.40<br>0.28  | 29.18<br>0.87      | 32.39<br>0.98      | X         | *                 | <del> </del>     |
|                         | Dawn  | 0                         | 2            | 0        | 2                         | 1%                     | 0.87                  | 0.28           | 0.87               | 0.98               | X         | <u> </u>          | <del> </del>     |
|                         | Dark  | 17                        | 17           | 12       | 46                        | 32%                    | 15.33                 | 4.56           | 10.53              | 11.68              | X         | x                 | x                |
|                         | Unknown                                       | 0                         | 0            | 0        | 0                         | 0%                     | 0.00                  | 0.35           | 1.05               | 1.18               |           |                   |                  |
| SURFACE CONDITIONS      |   | 30                        | 57           | 33       | 120                       | 85%                    | 40.00                 | 15.30          | 34.45              | 38.12              | Х         | Х                 | Х                |
|                         | Wet   | 5                         | 8            | 7        | 20                        | 14%                    | 6.67                  | 2.10           | 6.02               | 6.76               | X         | X                 |                  |
|                         | Others  | 0                         | 0            | 2        | 2                         | 1%                     | 0.67                  | 0.37           | 1.10               | 1.24               | X         |                   | <u> </u>         |
| MONTH OF A YEAR         | January<br>February                           | 5<br>0                    | 7            | 5<br>3   | 17<br>6                   | 12%<br>4%              | 5.67<br>2.00          | 1.42<br>1.42   | 3.33<br>3.53       | 3.69<br>3.93       | X         | X                 | X                |
|                         | March   | 2                         | 5            | 7        | 14                        | 4%                     | 2.00                  | 1.42           | 4.12               | 4.59               | X         | x                 | x                |
|                         | April   | 1                         | 2            | 4        | 7                         | 5%                     | 2.33                  | 1.30           | 3.21               | 3.57               | x         | ^                 | ^                |
|                         | May   | 2                         | 8            | 4        | 14                        | 10%                    | 4.67                  | 1.74           | 4.46               | 4.99               | X         | x                 |                  |
|                         | June  | 2                         | 6            | 1        | 9                         | 6%                     | 3.00                  | 1.38           | 3.49               | 3.90               | Х         |                   |                  |
|                         | July  | 4                         | 5            | 1        | 10                        | 7%                     | 3.33                  | 1.35           | 3.22               | 3.58               | Х         | Х                 |                  |
|                         | August  | 1                         | 8            | 2        | 11                        | 8%                     | 3.67                  | 1.56           | 3.99               | 4.46               | Х         |                   |                  |
|                         | September                                     | 4                         | 3            | 4        | 11                        | 8%                     | 3.67                  | 1.46           | 3.73               | 4.16               | X         |                   |                  |
|                         | October                                       | 4                         | 6            | 4        | 14                        | 10%                    | 4.67                  | 1.47           | 3.59               | 4.00               | X         | X                 | X                |
|                         | November<br>December                          | 5<br>5                    | 5            | 5<br>2   | 15<br>14                  | 11%<br>10%             | 5.00<br>4.67          | 1.39<br>1.61   | 3.53<br>4.43       | 3.94<br>4.97       | X         | X<br>X            | X                |
| DAY OF THE WEEK         | Sunday  | 4                         | 6            | 2        | 14                        | 8%                     | 4.00                  | 1.46           | 3.47               | 3.85               | X         | x                 | x                |
|                         | Monday  | 3                         | 9            | 3        | 15                        | 11%                    | 5.00                  | 2.70           | 6.42               | 7.13               | X         | ~                 |                  |
|                         | Tuesday                                       | 4                         | 8            | 3        | 15                        | 11%                    | 5.00                  | 2.49           | 6.18               | 6.88               | Х         |                   |                  |
|                         | Wednesday                                     | 9                         | 14           | 9        | 32                        | 23%                    | 10.67                 | 2.56           | 5.84               | 6.47               | Х         | х                 | Х                |
|                         | Thursday                                      | 6                         | 9            | 9        | 24                        | 17%                    | 8.00                  | 2.88           | 7.20               | 8.03               | X         | X                 |                  |
|                         | Friday  | 5<br>4                    | 11<br>8      | 9<br>7   | 25<br>19                  | 18%<br>13%             | 8.33<br>6.33          | 3.07<br>2.61   | 7.50<br>6.40       | 8.35<br>7.13       | X         | Х                 |                  |
| HOUR OF THE DAY         | Saturday<br>00:00-06:00                       | 4                         | •<br>4       | 2        | 19                        | 5%                     | 2.33                  | 1.70           | 3.39               | 3.71               | X         |                   |                  |
|                         | 06:00-09:00                                   | 9                         | 16           | 11       | 36                        | 25%                    | 12.00                 | 1.98           | 5.12               | 5.72               | X         | x                 | x                |
|                         | 09:00-11:00                                   | 4                         | 12           | 3        | 19                        | 13%                    | 6.33                  | 1.72           | 4.23               | 4.71               | Х         | Х                 | х                |
|                         | 11:00-13:00                                   | 2                         | 7            | 6        | 15                        | 11%                    | 5.00                  | 2.40           | 6.30               | 7.05               | Х         |                   |                  |
|                         | 13:00-15:00                                   | 0                         | 0            | 6        | 6                         | 4%                     | 2.00                  | 1.95           | 5.32               | 5.96               | Х         |                   |                  |
|                         | 15:00-18:00                                   | 5                         | 11           | 6        | 22                        | 15%                    | 7.33                  | 3.58           | 7.81               | 8.62               | X         | v                 |                  |
|                         | 18:00-24:00                                   | 14                        | 15           | 8        | 37                        | 26%                    | 12.33                 | 4.42           | 10.63              | 11.82              | Х         | X                 | X                |
|                         |   |                           |              |          |                           | YEAR                   |                       | 2 Voor         | 1                  |                    |           |                   |                  |
|                         |   |                           |              |          |                           | -                      | 0                     | 3-Year         |                    |                    |           |                   |                  |
|                         |   |                           |              |          | 1                         | 2                      | 3                     | Average        | -                  |                    |           |                   |                  |
| Average Daily Traffic A | DT (Vehicles per D                            | Day)                      |              |          | 50,544                    | 51,575                 | 52,628                | 51,582         |                    |                    |           |                   |                  |
| Florida Average Crash   | rate (Crashes per                             | Million En                | tering Ve    | hicles)  | 0.420                     | 0.424                  | 0.394                 | 0.413          | 1                  |                    |           |                   |                  |
| Traffic Base            |   |                           | ~            |          | 18.449                    | 18.825                 | 19.209                | 18.828         | 1                  |                    |           |                   |                  |
|                         |   |                           | -hi-l···     |          |                           |                        |                       |                | -                  |                    |           |                   |                  |
| Actual Crash Rate (Cr   |   | -                         | ,            |          | 1.897                     | 3.453                  | 2.186                 | 2.512          | 4                  |                    |           |                   |                  |
| Critical Crash Rate (C  | rashes per Million E                          | ntering V                 | (ehicles)    |          | 0.944                     | 0.944                  | 0.891                 | 0.926          |                    |                    |           |                   |                  |
| Safety Ratio            |   |                           |              |          | 2.011                     | 3.656                  | 2.453                 | 2.707          | 1                  |                    |           |                   |                  |
| High Crash Location     | 22  |                           |              |          | YES                       | YES                    | YES                   | YES            | 1                  |                    |           |                   |                  |
| 0                       |   | 0 000                     |              | Where:   | ,20                       | 120                    | ,20                   | .20            | J                  |                    |           |                   |                  |
| Actual Crash            | $Rate = \frac{A \times 1,00}{V}$              | 0,000                     |              |          | al number o<br>rage Annua |                        |                       | f crashes by   | type occurri       | ng in a 1 year     | period.   |                   |                  |
| CriticalCrashRa         | $ate = AVR + \frac{0.5}{TB} + \frac{0.5}{TB}$ | $TF\sqrt{\frac{AVH}{TB}}$ | 2            |          | Average Sta<br>affic Base | atewide Cr             | ash Rate for          | a particular   | type of interse    | ection or road     | way segme | nt.               | _                |
|                         |   |                           |              |          | апс ваse<br>st Factor (z  | -value)                |                       |                |                    | Confidence I       | evel (%)  | Constant Z        | 1                |
|                         |   |                           |              |          |                           |                        | nfidence Lev          | el for RI IDAI | areac)             | 68.30              | )         | 1.00              | 1                |
| Traffic Pass -          | $\frac{Years \times ADT \times 3}{1,000,000}$ | 65                        |              |          |                           |                        | Confidence Levi       |                |                    | 86.60              |           | 1.50              | 1                |
| 1 rajjic Base =         | 1,000,000                                     |                           |              | = 3.     | ∠ə (assume                | <del>, 33.3</del> 5% ( | Jonnuerice L          | Level IOF URE  | oniv areas)        | 90.00<br>95.00     |           | 1.64<br>1.96      |                  |
|                         | 1,000,000                                     |                           |              |          |                           |                        |                       |                |                    | 95.00              | ,<br>)    | 2.00              |                  |
|                         | $= \frac{Actual Crash}{Critical Crash}$       | n Rate                    |              |          |                           |                        |                       |                |                    | 98.80              | )         | 2.50              | 1                |
| Safety Ratio            | $=\frac{ACTUAL}{Critical}$ Cras               |                           | _            |          |                           |                        |                       |                |                    | 99.00<br>99.70     |           | 2.58<br>3.00      |                  |
|                         |   |                           |              |          |                           |                        |                       |                |                    |                    |           |                   |                  |

# Table 8 – Crash Analysis – SW 122 Avenue and SW 120 Street



#### Table 9 – Abnormal Crash Details & Countermeasures SW 122 Avenue and SW 120 Street

|                         | (4 Lane x 4 La  | ane, Signalized, Wi   | 2 Aven<br>th Turn La   |   |   |   | e 28) - URI   | BAN Spot   |   |                                    |
|-------------------------|---|---|--|---|---|---|---|--|---|------------------------------------|
|                         | (*  | ,,  |  | R OF CF   |   | 3 YEAR  | %   | MEAN   |   |                                    |
|                         |   |   | 2006   | YEAR<br>2007  | 2008  | TOTAL   | of<br>Total   | Accidents  | Possible<br>Cause(s)  | Counter-<br>measure(s)             |
|                         | Total Angle   | Crashes   | 11   | 23  | 6   | 40  | 100%  | 13.33  | (4)   | 4                                  |
|                         | Ŭ   | Day Light   | 8  | 21  | 2   | 31  | 78%   | 10.33  | (9)   | 6                                  |
|                         | Lighting Conditions   | Dawn  | 0  | 0   | 0   | 0   | 0%  | 0.00   | (10)  | 9                                  |
|                         |   | Dark  | 3  | 2   | 4   | 9   | 23%   | 3.00   | (12)  |                                    |
|                         |   | 00:00 - 06:00<br>06:00 - 09:00  | 1  | 1<br>5  | 0   | 2<br>10   | 5%<br>25%   | 0.67 3.33  |   |                                    |
|                         |   | 09:00 - 11:00   | 3  | 1   | 2   | 10  | 3%  | 0.33   |   |                                    |
| A                       | Hours of Day  | 11:00 - 13:00   | 0  | 4   | 2   | 6   | 15%   | 2.00   |   |                                    |
| Angle                   |   | 13:00 - 15:00   | 0  | 0   | 0   | 0   | 0%  | 0.00   |   |                                    |
|                         |   | 15:00 - 18:00   | 0  | 0   | 1   | 1   | 3%  | 0.33   |   |                                    |
|                         |   | 18:00 - 24:00   | 7  | 12  |   | 20  | 50%   | 6.67   |   |                                    |
|                         |   | NB + EB   | 0  | 0   | 1   | 1   | 3%  | 0.33   |   |                                    |
|                         | Direction   | NB + WB<br>SB + EB  | 10<br>1  | 17<br>3   | 4   | 31<br>4   | 78%<br>10%  | 10.33<br>1.33  |   |                                    |
|                         | Direction   | SB + WB   | 0  | 3   | 1   | 4   | 10%   | 1.33   |   |                                    |
|                         |   | Unknown   | Ő  | Ő   | 0   | 0   | 0%  | 0.00   |   |                                    |
|                         |   | •   |  |   |   |   |   |  |   |                                    |
|                         |   |   |  |   | 401150  | 0.)/E4B   |   |  |   |                                    |
|                         |   |   | NUMBE  | R OF CF   | ASHES   | 3 YEAR  | %   | MEAN   | Possible  | Counter-                           |
|                         |   |   | 0000   | YEAR  | 0000  | TOTAL   | of  | Accidents  | Cause(s)  | measure(s)                         |
|                         | Total Latt Tor  | n Crachec   | 2006   | 2007  | 2008  | CRASHE  | Total   | per Year   | (4)   |                                    |
|                         | Total Left Tur  | n Crasnes<br>Day Light  | 8<br>6   | 5   | 7<br>5  | 20<br>14  | 100%<br>70%   | 6.67<br>4.67   | (4)<br>(10)   | 2<br>6                             |
|                         | Lighting Conditions   | DayLight  | 6<br>0   | 3   | 5   | 0   | 0%  | 4.67   | (10)  | 13                                 |
|                         | gg Sonditions   | Dark  | 2  | 2   | 2   | 6   | 30%   | 2.00   | (10)  | 15                                 |
|                         |   | 00:00 - 06:00   | 2  | 1   | 1   | 4   | 20%   | 1.33   |   |                                    |
|                         |   | 06:00 - 09:00   | 0  | 0   | 0   | 0   | 0%  | 0.00   |   |                                    |
|                         |   | 09:00 - 11:00   | 0  | 1   | 1   | 2   | 10%   | 0.67   |   |                                    |
| Left Turn               | Hours of Day  | 11:00 - 13:00   | 1  | 0   | 0   | 1   | 5%  | 0.33   |   |                                    |
|                         |   | 13:00 - 15:00   | 5  | 0   | 1   | 6   | 30%   | 2.00   |   |                                    |
|                         |   | 15:00 - 18:00<br>18:00 - 24:00  | 0  | 2   | 3   | 5<br>2  | 25%<br>10%  | 1.67<br>0.67   |   |                                    |
|                         |   | $NB \rightarrow WB$   | 0  | 0   | 0   | 0   | 0%  | 0.00   |   |                                    |
|                         |   | $WB \rightarrow SB$   | 5  | 1   | 4   | 10  | 50%   | 3.33   |   |                                    |
|                         |   |   |  |   |   |   |   |  |   |                                    |
|                         | Direction   | $SB \rightarrow EB$   | 0  | 1   | 1   | 2   | 10%   | 0.67   |   |                                    |
|                         | Direction   | $\begin{array}{c} SB \to EB \\ EB \to NB \end{array}$   | 0<br>3   | 1<br>3  | 1<br>2  | 2<br>8  | 10%<br>40%  | 0.67<br>2.67   |   |                                    |
|                         | Direction   | $SB \rightarrow EB$   | 0  | 1   | 1   | 2   | 10%   | 0.67   |   |                                    |
|                         | Direction   | $\begin{array}{c} SB \to EB \\ EB \to NB \end{array}$   | 0<br>3   | 1<br>3  | 1<br>2  | 2<br>8  | 10%<br>40%  | 0.67<br>2.67   |   |                                    |
|                         | Direction   | $\begin{array}{c} SB \to EB \\ EB \to NB \end{array}$   | 0<br>3<br>0  | 1<br>3<br>0   | 1<br>2<br>0   | 2<br>8<br>0   | 10%<br>40%<br>0%  | 0.67<br>2.67<br>0.00   | Beerlikk  |                                    |
|                         | Direction   | $\begin{array}{c} SB \to EB \\ EB \to NB \end{array}$   | 0<br>3<br>0  | 1<br>3  | 1<br>2<br>0   | 2<br>8<br>0<br>3 YEAR   | 10%<br>40%<br>0%  | 0.67<br>2.67<br>0.00<br>MEAN   | Possible  | Counter-                           |
|                         | Direction   | $\begin{array}{c} SB \to EB \\ EB \to NB \end{array}$   | 0<br>3<br>0  | 1<br>3<br>0<br>R OF CR  | 1<br>2<br>0   | 2<br>8<br>0<br>3 YEAR<br>TOTAL  | 10%<br>40%<br>0%  | 0.67<br>2.67<br>0.00<br>MEAN<br>Accidents  | Possible<br>Cause(s)  | Counter-<br>measure(s)             |
|                         | Direction<br>Total Sideswi  | SB → EB<br>EB → NB<br>Unknown   | 0<br>3<br>0<br>NUMBE   | 1<br>3<br>0<br>R OF CF<br>YEAR  | 1<br>2<br>0<br>ASHES  | 2<br>8<br>0<br>3 YEAR   | 10%<br>40%<br>0%<br>%<br>of   | 0.67<br>2.67<br>0.00<br>MEAN   |   |                                    |
|                         | Total Sideswi   | SB → EB<br>EB → NB<br>Unknown<br>pe Crashes<br>Day Light  | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9   | 1<br>3<br>0<br>ER OF CF<br>YEAR<br>2007<br>23<br>20   | 1<br>2<br>0<br>ASHES<br>2008<br>14<br>11  | 2<br>8<br>0<br><b>3 YEAR</b><br>TOTAL<br>CRASHE<br>47<br>40   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%  | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33   | Cause(s)<br>(1)<br>(16)   | measure(s)<br>4<br>19              |
|                         |   | SB → EB<br>EB → NB<br>Unknown<br>Dec Crashes<br>DayLight<br>Dawn  | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>0  | 1<br>3<br>0<br><b>ER OF CF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0  | 1<br>2<br>0<br>ASHES<br>2008<br>14<br>11<br>0   | 2<br>8<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>40<br>0  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%  | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00  | Cause(s)<br>(1)   | measure(s)<br>4                    |
|                         | Total Sideswi   | SB → EB<br>EB → NB<br>Unknown<br>DayLight<br>Dawn<br>Dawn<br>Dark   | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>0<br>1   | 1<br>3<br>0<br><b>ER OF CF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0<br>3   | 1<br>2<br>0<br>ASHES<br>2008<br>14<br>11<br>0<br>3  | 2<br>8<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>40<br>0<br>7   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%   | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33  | Cause(s)<br>(1)<br>(16)   | measure(s)<br>4<br>19              |
|                         | Total Sideswi   | $SB \rightarrow EB$ $EB \rightarrow NB$ $Durknown$ Dee Crashes $Day Light$ $Dawn$ $Dark$ $Dark$ $(0:00 - 06:00$   | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>1<br>0   | 1<br>3<br>0<br><b>ER OF CF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0<br>3<br>0  | 1<br>2<br>0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1   | 2<br>8<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>40<br>0<br>7<br>7  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>2%   | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33  | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
|                         | Total Sideswi   | $SB \rightarrow EB$ $EB \rightarrow NB$ $Durknown$ Dee Crashes Day Light Dawn Dark 00:00 - 06:00 06:00 - 09:00  | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>0<br>1<br>0<br>4   | 1<br>3<br>0<br><b>ER OF CF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0<br>3<br>0<br>5   | 1<br>2<br>0<br><b>ASHES</b><br>2008<br>14<br>11<br>0<br>3<br>1<br>3   | 2<br>8<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>40<br>0<br>7<br>1<br>12  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>2%<br>26%  | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00  | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| Sideswipe               | Total Sideswi   | $SB \rightarrow EB$ $EB \rightarrow NB$ $Durknown$ Dee Crashes $Day Light$ $Dawn$ $Dark$ $Dark$ $(0:00 - 06:00$   | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>1<br>0   | 1<br>3<br>0<br><b>ER OF CF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0<br>3<br>0  | 1<br>2<br>0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1   | 2<br>8<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>40<br>0<br>7<br>7  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>2%   | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33  | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| Sideswipe<br>(Overtake) | Total Sideswi   | SB → EB<br>EB → NB<br>Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00   | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>0<br>1<br>0<br>0<br>4<br>3<br>0<br>0   | 1<br>3<br>0<br><b>R OF CF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0<br>3<br>0<br>5<br>7   | 1<br>2<br>0<br><b>ASHES</b><br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>3<br>1  | 2<br>8<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>5<br>5<br>1  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>26%<br>26%<br>26%<br>11%<br>26%  | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>1.67<br>0.33  | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi   | SB → EB<br>EB → NB<br>Duknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 18:00   | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>0<br>1<br>0<br>4<br>3<br>0<br>0<br>2   | 1<br>3<br>0<br><b>FR OF CF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6   | 1<br>2<br>0<br><b>ASHES</b><br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>3<br>1<br>2   | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>5<br>1<br>10   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>21%   | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>0.33<br>4.00<br>4.00<br>1.67<br>0.33<br>3.33  | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi   | SB → EB<br>EB → NB<br>Unknown<br>Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>00:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>15:00 - 24:00  | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>0<br>0<br>2<br>2<br>1   | 1<br>3<br>0<br><b>FROFCF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>3   | 1<br>2<br>0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>3<br>1<br>2<br>2<br>2  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>5<br>1<br>1<br>10<br>6  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>2%<br>2%<br>26%<br>11%<br>26%<br>11%<br>2%<br>21%<br>21%<br>13%   | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.00<br>2.33<br>4.00<br>4.00<br>4.00<br>1.67<br>0.33<br>3.33<br>2.00  | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi   | SB → EB<br>EB → NB<br>Duknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North  | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>0<br>2<br>1<br>5  | 1<br>3<br>0<br>7<br>2007<br>20<br>0<br>3<br>20<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>13   | 1<br>2<br>0<br><b>ASHES</b><br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>3<br>1<br>2<br>2<br>10  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>12<br>12<br>1<br>1<br>0<br>6<br>6<br>28   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>26%<br>26%<br>26%<br>26%<br>26%<br>21%<br>11%<br>60%   | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.00<br>2.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>9.33   | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | SB → EB<br>EB → NB<br>Duknown<br>DayLight<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South  | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>2<br>1<br>5<br>2  | 1<br>3<br>0<br><b>FR OF CF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>1<br>1  | 1<br>2<br>0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>3<br>1<br>2<br>2<br>2  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>1<br>10<br>6<br>28<br>6  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>26%<br>26%<br>26%<br>26%<br>26%<br>21%<br>13%  | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>1.67<br>0.33<br>3.33<br>2.00  | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi   | SB → EB<br>EB → NB<br>Unknown<br>Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>15:00 - 18:00<br>15:00 - 24:00<br>North<br>South<br>East  | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>0<br>2<br>1<br>5  | 1<br>3<br>0<br><b>FR OF CFR</b><br><b>YEAR</b><br><b>2007</b><br><b>23</b><br>200<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>13<br>1<br>3  | 1<br>2<br>0<br><b>ASHES</b><br>2008<br>14<br>11<br>0<br>3<br>1<br>2<br>3<br>3<br>1<br>2<br>2<br>2<br>10<br>3<br>1   | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>12<br>12<br>1<br>1<br>0<br>6<br>6<br>28   | 10%<br>40%<br>0%<br>of<br><b>Total</b><br>100%<br>85%<br>0%<br>25%<br>26%<br>26%<br>26%<br>26%<br>26%<br>11%<br>21%<br>21%<br>33%   | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>1.67<br>0.33<br>3.33<br>2.00<br>9.33<br>2.00<br>9.30<br>2.00  | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | SB → EB<br>EB → NB<br>Duknown<br>DayLight<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South  | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>4<br>4<br>3<br>0<br>0<br>0<br>2<br>2<br>1<br>5<br>5<br>2<br>2  | 1<br>3<br>0<br><b>FR OF CF</b><br><b>YEAR</b><br>2007<br>23<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>1<br>1  | 1<br>2<br>0<br><b>ASHES</b><br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>3<br>1<br>2<br>2<br>10  | 2<br>8<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>5<br>1<br>12<br>12<br>5<br>6<br>6<br>6  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>26%<br>26%<br>26%<br>26%<br>26%<br>21%<br>13%  | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>1.67<br>0.33<br>3.33<br>2.00  | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | SB → EB<br>EB → NB<br>Duknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>00:00 - 13:00<br>11:00 - 13:00<br>11:00 - 13:00<br>15:00 - 15:00<br>15:00 - 24:00<br>North<br>South<br>East<br>West  | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>0<br>2<br>1<br>5<br>2<br>2<br>1   | 1<br>3<br>0<br>7<br>2007<br>20<br>0<br>3<br>20<br>0<br>3<br>5<br>7<br>2<br>0<br>6<br>3<br>13<br>1<br>3<br>6   | 1<br>2<br>0<br>8<br>3<br>14<br>11<br>1<br>0<br>3<br>2<br>3<br>1<br>2<br>2<br>10<br>3<br>1<br>0<br>0   | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>12<br>1<br>10<br>6<br>6<br>6<br>6<br>7  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>85%<br>0%<br>26%<br>26%<br>21%<br>26%<br>21%<br>13%<br>60%<br>13%<br>13%<br>15%   | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4   | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | SB → EB<br>EB → NB<br>Duknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>00:00 - 13:00<br>11:00 - 13:00<br>11:00 - 13:00<br>15:00 - 15:00<br>15:00 - 24:00<br>North<br>South<br>East<br>West  | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>0<br>2<br>2<br>2<br>2<br>2<br>1<br>0<br>0  | 1<br>3<br>0<br>7<br>7<br>2007<br>23<br>2007<br>23<br>2007<br>23<br>0<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>11<br>3<br>6<br>0<br>0<br>0<br>13<br>1<br>3<br>6<br>0<br>0   | 1<br>2<br>0<br>3<br>14<br>11<br>0<br>3<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>10<br>3<br>1<br>0<br>0<br>0  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>10<br>6<br>6<br>6<br>6<br>6<br>7<br>0   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>26%<br>26%<br>21%<br>26%<br>21%<br>13%<br>60%<br>13%<br>13%<br>13%<br>13%<br>0%  | 0.67<br>2.67<br>0.00<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4   | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | SB → EB<br>EB → NB<br>Duknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>00:00 - 13:00<br>11:00 - 13:00<br>11:00 - 13:00<br>15:00 - 15:00<br>15:00 - 24:00<br>North<br>South<br>East<br>West  | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>0<br>2<br>2<br>2<br>2<br>2<br>1<br>0<br>0  | 1<br>3<br>0<br>7<br>2007<br>23<br>2007<br>23<br>2007<br>23<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>13<br>1<br>3<br>6<br>0<br>0<br>8<br>7<br>2<br>0<br>6<br>3<br>13<br>1<br>3<br>6<br>0<br>0<br>7<br>2<br>0<br>6<br>8<br>7<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8  | 1<br>2<br>0<br><b>ASHES</b><br>2008<br>14<br>11<br>0<br>3<br>1<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>0<br>3<br>1<br>0<br>3<br>0<br>0  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>10<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>3 YEAR  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>2%<br>26%<br>26%<br>26%<br>26%<br>21%<br>13%<br>26%<br>21%<br>13%<br>13%<br>13%<br>13%<br>15%<br>0%   | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>1.67<br>0.33<br>3.33<br>2.00<br>2.00<br>2.00<br>2.00<br>2.00<br>2.00   | Cause(s)<br>(1)<br>(16)   | <mark>measure(s)</mark><br>4<br>19 |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | SB → EB<br>EB → NB<br>Duknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>00:00 - 13:00<br>11:00 - 13:00<br>11:00 - 13:00<br>15:00 - 15:00<br>15:00 - 24:00<br>North<br>South<br>East<br>West  | 0<br>30<br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>4<br>4<br>3<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>5<br>5<br>2<br>2<br>1<br>1<br>0<br>0<br>8<br>1<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>1   | 1<br>3<br>0<br>7<br>2007<br>23<br>2007<br>23<br>2007<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>1<br>3<br>6<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>6<br>3<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 1<br>2<br>0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>2<br>10<br>3<br>1<br>0<br>0<br>0<br>ASHES  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>6<br>6<br>6<br>6<br>6<br>7<br>7<br>0<br>3 YEAR<br>70<br>7  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>0%<br>15%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>21%<br>13%<br>13%<br>13%<br>13%<br>13%<br>0%   | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>1.67<br>0.33<br>3.33<br>2.00<br>2.00<br>2.00<br>2.00<br>2.33<br>0.00   | Cause(s)<br>(1)<br>(16)<br>(19)   | measure(s)<br>4<br>19<br>21        |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | SB → EB<br>EB → NB<br>Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>13:00 - 13:00<br>13:00 - 13:00<br>13:00 - 14:00<br>North<br>South<br>East<br>West<br>Unknown   | 0<br>3<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 1<br>3<br>0<br>7<br>7<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>13<br>1<br>3<br>6<br>0<br>7<br>2<br>0<br>6<br>3<br>13<br>1<br>3<br>6<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>6<br>7<br>7<br>2<br>0<br>0<br>6<br>7<br>7<br>2<br>0<br>0<br>6<br>7<br>7<br>2<br>0<br>0<br>6<br>7<br>7<br>2<br>0<br>0<br>6<br>7<br>7<br>7<br>2<br>0<br>0<br>6<br>7<br>7<br>7<br>7<br>2<br>0<br>0<br>6<br>7<br>7<br>7<br>7<br>2<br>0<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7  | 1<br>2008<br>14<br>11<br>0<br>3<br>1<br>1<br>3<br>2<br>2<br>10<br>3<br>1<br>2<br>2<br>10<br>3<br>1<br>0<br>0<br>0<br>8<br>XSHES<br>2008   | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>12<br>10<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>3 YEAR<br>7<br>0<br>3 YEAR<br>7<br>7<br>0   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>2%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>11%<br>2%<br>21%<br>2%<br>26%<br>33%<br>15%<br>0%<br>0%  | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00   | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br>Possible<br>Cause(s)                       | Counter-<br>mea sure(s)            |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | SB → EB         EB → NB           EB → NB         Inknown           Unknown         Inknown           Day Light         Dawn           Dark         00:00 - 06:00           00:00 - 09:00         09:00 - 11:00           11:00 - 13:00         13:00 - 15:00           15:00 - 18:00         18:00 - 24:00           North         South           East         West           Unknown         ect Crashes   | 0<br>3<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>4<br>3<br>0<br>0<br>2<br>2<br>1<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 1<br>3<br>0<br>7<br>2007<br>20<br>0<br>3<br>20<br>0<br>3<br>1<br>20<br>0<br>5<br>7<br>20<br>0<br>3<br>1<br>1<br>3<br>6<br>0<br>0<br>8<br>CF CF<br>YEAR<br>2007<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>6<br>6<br>6<br>7<br>7<br>20<br>0<br>0<br>6<br>6<br>6<br>7<br>7<br>20<br>0<br>6<br>6<br>6<br>7<br>7<br>20<br>0<br>6<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7  | 1<br>2<br>0<br>3<br>14<br>11<br>1<br>1<br>3<br>2<br>2<br>10<br>3<br>1<br>2<br>2<br>10<br>3<br>1<br>2<br>2<br>10<br>3<br>0<br>0<br>0<br>8<br>5<br>6  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>12<br>1<br>1<br>10<br>6<br>6<br>6<br>6<br>7<br>0<br>3 YEAR<br>TOTAL<br>6<br>8<br>7<br>0<br>3 YEAR<br>7<br>6<br>6<br>6<br>6<br>6<br>7<br>0   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>26%<br>26%<br>26%<br>21%<br>26%<br>26%<br>21%<br>13%<br>26%<br>21%<br>13%<br>13%<br>13%<br>13%<br>0%<br>0%  | 0.67<br>2.67<br>0.00<br>MEAN<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>2.33<br>0.00  | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br>Possible<br>Cause(s)<br>(2)                | Counter-<br>measure(s)             |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | SB → EB<br>EB → NB<br>Duknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South<br>East<br>West<br>Unknown<br>ect Crashes<br>Day Light   | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>2<br>2<br>2<br>2<br>2<br>1<br>5<br>2<br>2<br>2<br>1<br>0<br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>N</b> | 1<br>3<br>0<br><b>FR OF CF</b><br><b>YEAR</b><br>2007<br>23<br>0<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>1<br>1<br>3<br>6<br>0<br><b>ER OF CF</b><br><b>YEAR</b><br>2007<br><b>YEAR</b><br><b>2007</b><br><b>23</b><br>0<br>0<br><b>3</b><br><b>3</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>5</b><br><b>5</b><br><b>7</b><br><b>7</b><br><b>2</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>0</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>6</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>3</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b> | 1<br>2<br>0<br>3<br>14<br>11<br>0<br>3<br>1<br>2<br>2<br>3<br>1<br>1<br>2<br>2<br>10<br>3<br>1<br>1<br>2<br>2<br>0<br>0<br>8<br>5<br>6<br>3   | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>6<br>6<br>6<br>7<br>0<br>0<br>3<br>YEAR   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>26%<br>26%<br>26%<br>26%<br>26%<br>21%<br>13%<br>26%<br>21%<br>13%<br>13%<br>13%<br>13%<br>00%<br>0%<br>0%  | 0.67<br>2.67<br>0.00<br>MEAN<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>1.67<br>0.33<br>3.33<br>2.00<br>2.00<br>2.00<br>2.00<br>2.00<br>2.00  | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | SB → EB         EB → NB           EB → NB         Inknown           Unknown         Inknown           Day Light         Dawn           Dark         00:00 - 06:00           00:00 - 09:00         09:00 - 11:00           11:00 - 13:00         13:00 - 15:00           15:00 - 18:00         18:00 - 24:00           North         South           East         West           Unknown         ect Crashes   | 0<br>3<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>4<br>3<br>0<br>0<br>2<br>2<br>1<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 1<br>3<br>0<br>7<br>2007<br>20<br>0<br>3<br>20<br>0<br>3<br>1<br>20<br>0<br>5<br>7<br>20<br>0<br>3<br>1<br>1<br>3<br>6<br>0<br>0<br>8<br>CF CF<br>YEAR<br>2007<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>5<br>7<br>7<br>20<br>0<br>0<br>6<br>6<br>6<br>7<br>7<br>20<br>0<br>0<br>6<br>6<br>6<br>7<br>7<br>20<br>0<br>6<br>6<br>6<br>7<br>7<br>20<br>0<br>6<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>7<br>20<br>0<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7  | 1<br>2<br>0<br>3<br>14<br>11<br>1<br>1<br>3<br>2<br>2<br>10<br>3<br>1<br>2<br>2<br>10<br>3<br>1<br>2<br>2<br>10<br>3<br>0<br>0<br>0<br>8<br>5<br>6  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>12<br>1<br>1<br>10<br>6<br>6<br>6<br>6<br>7<br>0<br>3 YEAR<br>TOTAL<br>6<br>8<br>7<br>0<br>3 YEAR<br>7<br>6<br>6<br>6<br>6<br>6<br>7<br>0   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>26%<br>26%<br>26%<br>21%<br>26%<br>26%<br>21%<br>13%<br>26%<br>21%<br>13%<br>13%<br>13%<br>13%<br>0%<br>0%  | 0.67<br>2.67<br>0.00<br>MEAN<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>2.33<br>0.00  | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br>Possible<br>Cause(s)<br>(2)                | Counter-<br>measure(s)             |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | SB → EB<br>EB → NB<br>Durknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>13:00 - 24:00<br>North<br>South<br>East<br>West<br>Unknown<br>ect Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>00:00 - 06:00   | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>0<br>4<br>4<br>3<br>0<br>0<br>4<br>4<br>3<br>0<br>0<br>2<br>1<br>5<br>2<br>1<br>0<br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>O</b><br><b>O</b><br><b>O</b><br><b>O</b><br><b>O</b><br><b>O</b><br><b>O</b><br><b>O</b>  | 1<br>3<br>0<br>7<br>7<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>13<br>13<br>6<br>0<br>8<br>7<br>7<br>2<br>0<br>6<br>7<br>7<br>2<br>0<br>6<br>7<br>7<br>2<br>0<br>0<br>3<br>13<br>13<br>13<br>6<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 1 2 0 ASHES 2008 14 11 0 3 1 1 3 2 3 1 1 2 2 10 3 1 0 0 ASHES 2 2 2 10 3 1 0 0 0 ASHES 3 0 0  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>10<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>1<br>28<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8                       | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>15%<br>0%<br>15%<br>0%<br>0%   | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.30<br>9.33<br>2.00<br>9.30<br>9.33<br>2.00<br>9.33<br>2.00<br>9.30<br>9.30<br>9.30<br>9.30<br>9.00<br>9.30<br>9.00<br>9.33<br>2.00<br>9.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.30<br>9.30<br>9.30<br>9.00<br>9.30<br>9.00<br>9.30<br>9.00<br>9.33<br>9.00<br>9.30<br>9.00<br>9.30<br>9.00<br>9.30<br>9.00<br>9.30<br>9.00<br>9.0  | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | SB → EB<br>EB → NB<br>Duknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 13:00<br>13:00 - 13:00<br>13:00 - 13:00<br>13:00 - 13:00<br>13:00 - 13:00<br>North<br>South<br>East<br>West<br>Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00  | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>0<br>4<br>3<br>0<br>0<br>4<br>3<br>0<br>0<br>2<br>1<br>5<br>2<br>1<br>0<br>0<br>1<br>5<br>2<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 1<br>3<br>0<br>7<br>7<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>3<br>13<br>13<br>6<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>8<br>7<br>8<br>7<br>7<br>8<br>7<br>7<br>8<br>7<br>7<br>7<br>8<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7  | 1 2 0 ASHES 2008 14 11 0 3 1 1 3 2 3 1 1 2 2 10 3 1 0 0 ASHES 2 2 2 10 3 1 0 0 0 ASHES 0 3 1 2 2 1 0 1 1 2 2 1 0 1 1 2 1 1 1 1 1 1  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>10<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6   | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>15%<br>0%<br>13%<br>13%<br>13%<br>13%<br>15%<br>0%<br>0%<br>0%<br>50%<br>50%<br>33%            | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>1.67<br>0.33<br>3.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>2.00<br>2.00<br>2.33<br>0.00   | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction<br>Total Fixed Ob<br>Lighting Conditions                  | SB → EB         EB → NB           EB → NB         Inknown           Unknown         Inknown           Day Light         Dawn           Dark         00:00 - 06:00           06:00 - 09:00         09:00 - 11:00           13:00 - 15:00         13:00 - 18:00           15:00 - 18:00         18:00 - 24:00           North         South           East         West           Unknown         Dawn           Dawn         Dawn           Dawn         Dawn           Dawn         Dawn           Dawn         Dark           00:00 - 06:00         06:00 - 09:00           06:00 - 09:00         06:00 - 09:00           09:00 - 11:00         11:00  | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>0<br>2<br>2<br>1<br>0<br>2<br>2<br>1<br>0<br>2<br>2<br>1<br>0<br>2<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 1<br>3<br>0<br>7<br>2007<br>23<br>20<br>0<br>3<br>20<br>0<br>3<br>1<br>2<br>0<br>6<br>3<br>13<br>1<br>3<br>6<br>0<br>0<br>8<br>7<br>2<br>0<br>6<br>3<br>13<br>1<br>3<br>6<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 1 2 0 ASHES 2008 14 11 0 3 1 1 1 0 3 1 1 2 2 1 0 0 ASHES 2008 6 3 0 1 2 1 1 2 1 0 0 0 1 1 1 0 0 0 1 1 1 1   | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>12<br>12<br>1<br>1<br>10<br>6<br>28<br>6<br>6<br>6<br>7<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>3<br>3<br>1<br>CRASHE<br>12<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>26%<br>26%<br>26%<br>21%<br>26%<br>21%<br>13%<br>26%<br>21%<br>13%<br>60%<br>13%<br>13%<br>13%<br>0%<br>50%<br>0%<br>50%<br>0%<br>17%<br>33%                  | 0.67<br>2.67<br>0.00<br>MEAN<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4   | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| •                       | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | SB → EB<br>EB → NB<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South<br>East<br>Unknown<br>ect Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00   | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>0<br>2<br>2<br>2<br>2<br>1<br>0<br>2<br>2<br>2<br>2<br>1<br>0<br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b> 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| 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>1<br>1<br>10<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>6<br>6<br>7<br>0<br>0<br>3 YEAR<br>12<br>12<br>12<br>12<br>10<br>10<br>12<br>12<br>12<br>12<br>10<br>10<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12  | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>26%<br>26%<br>26%<br>26%<br>26%<br>21%<br>13%<br>26%<br>21%<br>13%<br>13%<br>13%<br>13%<br>00%<br>0<br>50%<br>0%<br>0<br>50%<br>0%<br>50%<br>0%<br>17%<br>17% | 0.67<br>2.67<br>0.00<br>MEAN<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4   | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| (Overtake)              | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction<br>Total Fixed Ob<br>Lighting Conditions                  | SB → EB<br>EB → NB<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>13:00 - 24:00<br>North<br>South<br>East<br>West<br>Unknown<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>11:00 - 15:00  | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>0<br>4<br>3<br>0<br>0<br>4<br>3<br>0<br>0<br>2<br>1<br>5<br>2<br>1<br>0<br>0<br>1<br>5<br>2<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 1<br>3<br>0<br>7<br>7<br>20<br>0<br>3<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>13<br>13<br>6<br>0<br>3<br>13<br>6<br>0<br>5<br>7<br>2<br>0<br>6<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>6<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>6<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>6<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>6<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 1 2 0 ASHES 2008 14 11 0 3 1 1 3 2 1 1 2 1 0 0 ASHES 2 2 1 0 0 0 ASHES 0 1 1 2 1 1 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 0  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>5<br>1<br>10<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>0<br>3<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>0<br>7<br>1<br>12<br>12<br>10<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>10<br>10<br>10<br>12<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10 | 10%<br>40%<br>0%<br>of<br>Total<br>100%<br>85%<br>2%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>11%<br>2%<br>2%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%                         | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>2.00<br>1.00<br>0.00<br>1.00<br>1.00<br>1.00<br>0.03<br>3.0.00   | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| (Overtake)              | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction<br>Total Fixed Ob<br>Lighting Conditions                  | SB → EB         SB → NB           EB → NB         Inknown           Unknown         Inknown           Day Light         Dawn           Dark         00:00 - 06:00           06:00 - 09:00         09:00 - 11:00           11:00 - 13:00         13:00 - 15:00           15:00 - 18:00         North           South         East           West         Unknown           Dawn         Dawn           Dawn         Dawn           Dawn         Dawn           Dawn         Dark           00:00 - 06:00         09:00           09:00 - 11:00         11:00 - 13:00           13:00 - 15:00         15:00   | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>2<br>1<br>1<br>0<br>2<br>1<br>5<br>2<br>1<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 1<br>3<br>0<br>7<br>2007<br>23<br>20<br>0<br>3<br>1<br>3<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>6<br>3<br>13<br>1<br>3<br>6<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>6<br>3<br>13<br>1<br>3<br>6<br>0<br>0<br>0<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 1 2 0 ASHES 2008 14 11 0 3 1 1 3 2 10 3 1 2 10 0 0 ASHES 2008 6 3 1 1 2 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 1 1 1 0 0 0 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 0 0 0 1 1 1 1 1 1 0 0 0 1   | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>1<br>12<br>12<br>12<br>12<br>1<br>1<br>10<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>6<br>3<br>3 YEAR<br>10<br>1<br>1<br>1<br>10<br>10<br>6<br>28<br>6<br>6<br>3<br>1<br>1<br>1<br>10<br>10<br>1<br>1<br>10<br>10<br>1<br>10<br>10<br>10<br>10<br>10   | 10%<br>40%<br>0%<br>0%<br>0%<br>10%<br>85%<br>26%<br>26%<br>26%<br>21%<br>26%<br>26%<br>21%<br>13%<br>26%<br>21%<br>13%<br>13%<br>13%<br>13%<br>13%<br>0%<br>0%   | 0.67<br>2.67<br>0.00<br>MEAN<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.00<br>2.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>3.00<br>9.00<br>9.33<br>2.00<br>9.33<br>3.00<br>9.00<br>9.00<br>9.00<br>9.00<br>9.00<br>9   | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| (Overtake)              | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction<br>Total Fixed Ob<br>Lighting Conditions                  | SB → EB         SB → NB           EB → NB         IUnknown           Unknown         Inknown           DayLight         Dawn           Dark         00:00 - 06:00           00:00 - 09:00         09:00           11:00 - 13:00         13:00 - 15:00           15:00 - 18:00         18:00           18:00 - 24:00         North           South         East           West         Unknown           Inknown         DayLight           DayLight         Dawn           Dark         00:00 - 06:00           09:00 - 11:00         13:00           11:00 - 13:00         13:00           13:00 - 15:00         15:00           15:00 - 18:00         15:00   | 0<br>3<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>9<br>0<br>1<br>1<br>0<br>4<br>3<br>0<br>0<br>2<br>2<br>2<br>1<br>0<br>2<br>2<br>2<br>1<br>0<br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMBE</b><br><b>NUMB</b>   | 1<br>3<br>0<br>0<br>7<br>2007<br>23<br>2007<br>23<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>3<br>3<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 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0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>2.33<br>0.33<br>2.00<br>2.00<br>2.00<br>2.00<br>2.00<br>2  | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| (Overtake)              | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction<br>Total Fixed Ob<br>Lighting Conditions                  | SB → EB         SB → NB           EB → NB         IUnknown           Unknown         Inknown           Day Light         Dawn           Dark         Inknown           00:00 - 06:00         09:00 - 11:00           11:00 - 13:00         13:00 - 15:00           15:00 - 18:00         18:00 - 24:00           North         South           East         West           Unknown         Davk           00:00 - 06:00         06:00 - 09:00           09:00 - 11:00         11:00 - 13:00           11:00 - 13:00         11:00 - 13:00           11:00 - 15:00         15:00 - 15:00           15:00 - 15:00         15:00 - 15:00           15:00 - 15:00         15:00           15:00 - 15:00         15:00           15:00 - 15:00         15:00           15:00 - 15:00         18:00 - 24:00           North         North | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>0<br>4<br>3<br>0<br>0<br>4<br>3<br>0<br>0<br>2<br>1<br>5<br>2<br>1<br>0<br>0<br>1<br>5<br>2<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 1<br>3<br>0<br>7<br>7<br>20<br>0<br>3<br>20<br>0<br>3<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>2<br>0<br>6<br>3<br>13<br>13<br>6<br>0<br>3<br>13<br>6<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 1 2 0 ASHES 2008 14 11 0 3 1 1 3 2 3 1 1 2 2 10 3 1 2 2 10 3 1 0 0 0 ASHES 2 0 0 3 1 1 2 1 0 0 1 1 0 0 1 0 0 1 0 0 1 0 0 1 0  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>1<br>1<br>10<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>0<br>3<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>7<br>0<br>0<br>3<br>3<br>1<br>2<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>1<br>1<br>1<br>1<br>1   | 10%<br>40%<br>0%<br>0%<br>of<br>Total<br>100%<br>85%<br>2%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>26%<br>15%<br>0%<br>13%<br>13%<br>13%<br>13%<br>13%<br>15%<br>0%<br>0%<br>0%                     | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>0.00<br>9.33<br>0.00<br>0.00<br>2.03<br>0.00<br>1.00<br>1.00<br>1.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>0.00<br>1.00<br>1.00<br>0.00<br>1.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>00 | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| (Overtake)              | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction<br>Total Fixed Ob<br>Lighting Conditions                  | SB → EB         SB → NB           EB → NB         IUnknown           Unknown         Inknown           DayLight         Dawn           Dark         00:00 - 06:00           00:00 - 09:00         09:00           11:00 - 13:00         13:00 - 15:00           15:00 - 18:00         18:00           18:00 - 24:00         North           South         East           West         Unknown           Inknown         DayLight           DayLight         Dawn           Dark         00:00 - 06:00           09:00 - 11:00         13:00           11:00 - 13:00         13:00           13:00 - 15:00         15:00           15:00 - 18:00         15:00   | 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1<br>2<br>0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>2<br>3<br>1<br>2<br>2<br>10<br>3<br>1<br>2<br>2<br>10<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>2<br>3<br>1<br>2<br>2<br>3<br>1<br>2<br>2<br>2<br>3<br>1<br>2<br>2<br>2<br>3<br>1<br>2<br>2<br>2<br>3<br>1<br>2<br>2<br>2<br>2<br>2<br>3<br>1<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>1<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>1  | 10% 40% 0% 0% of Total 10% 85% 2% 26% 26% 26% 26% 26% 26% 26% 13% 60% 13% 13% 13% 13% 15% 0% 0% 15% 0% 15% 0% 17% 17% 0% 0% 17%   | 0.67<br>2.67<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>2.33<br>0.33<br>2.00<br>2.00<br>2.00<br>2.00<br>2.00<br>2  | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |
| (Overtake)              | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction<br>Total Fixed Obj<br>Lighting Conditions<br>Hours of Day | SB → EB         EB → NB           EB → NB         IUnknown           Unknown         Iunknown           Day Light         Dawn           Dark         00:00 - 06:00           06:00 - 09:00         09:00 - 11:00           11:00 - 13:00         13:00 - 15:00           15:00 - 18:00         18:00 - 24:00           North         South           East         West           Unknown         Dawn           Dark         00:00 - 06:00           00:00 - 06:00         09:00           10:00 - 13:00         13:00 - 15:00           15:00 - 15:00         13:00 - 15:00           15:00 - 15:00         13:00 - 15:00           15:00 - 15:00         13:00 - 15:00           10:00 - 18:00         13:00 - 18:00           13:00 - 24:00         North           South         South   | 0<br>3<br>0<br>2006<br>10<br>9<br>0<br>1<br>1<br>0<br>2<br>1<br>0<br>2<br>1<br>0<br>2<br>1<br>0<br>2<br>1<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 1<br>3<br>0<br>7<br>2007<br>23<br>20<br>0<br>3<br>1<br>3<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>6<br>3<br>13<br>1<br>3<br>6<br>0<br>0<br>8<br>CF CF<br>7<br>2<br>0<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>5<br>7<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 1 2 0 ASHES 2008 14 11 0 3 1 1 3 2 10 3 1 2 10 3 1 2 10 0 0 ASHES 2008 6 3 1 1 2 1 0 0 1 1 0 0 1 1 0 0 2 1 1 1 0 0 1 0 0 2 1 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0  | 2<br>8<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>47<br>40<br>0<br>7<br>7<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>5<br>5<br>5<br>1<br>1<br>10<br>6<br>6<br>6<br>7<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>6<br>3<br>3<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | 10% 40% 0% 0% 0% 0% 0% 10% 285% 0% 26% 26% 15% 2% 26% 11% 2% 26% 13% 13% 13% 13% 15% 0% 15% 0% 15% 0% 15% 0% 15% 15% 0% 17% 17% 17% 0% 33%  | 0.67<br>2.67<br>0.00<br>MEAN<br>Accidents<br>per Year<br>15.67<br>13.33<br>0.00<br>2.33<br>0.33<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>4.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>2.00<br>9.33<br>0.00<br>9.33<br>2.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>9.33<br>0.00<br>0.00  | Cause(s)<br>(1)<br>(16)<br>(19)<br>(19)<br><b>Possible</b><br>Cause(s)<br>(2)<br>(17) | Counter-<br>measure(s)             |



#### 3.2.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 122 Avenue and SW 120 Street were performed on a typical weekday on November 19, 2010. A summary of the traffic data is presented in *Figure 7*, and the field review is presented in *Figure 8*.

This intersection has single left-turn bays for all approaches, and the northbound approach has an exclusive right-turn lane. The signal operation has split phases for northbound and southbound traffic, and protected/permissive for eastbound and westbound left-turn traffic.

Long queues were observed for westbound left-turn with vehicles spilling back and blocking the through lane. Also, this westbound left-turn movement struggles to cross the opposing eastbound through movement. Additionally, red light running was observed at the intersection.

It was noticed that the northbound vehicles do not respect the left-turn red arrow. Also, vehicles were constantly changing lanes to access the exclusive right-turn lane.

#### 3.2.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 122 Avenue and SW 120 Street, the following is recommended:

- Lengthen the westbound left-turn lane to approximately 500 ft.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Installing "No Turn on Red" (R10-11) signs for northbound approach.
- Modifying the fences on the southeast and southwest corners to improve the sight distance triangles for northbound approach.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 9.





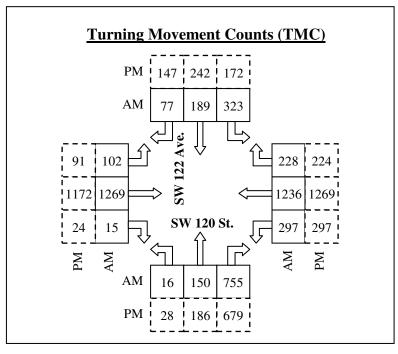


Figure 7: Traffic Data – SW 122 Avenue and SW 120 Street





Figure 8: Field Review – SW 122 Avenue and SW 120 Street



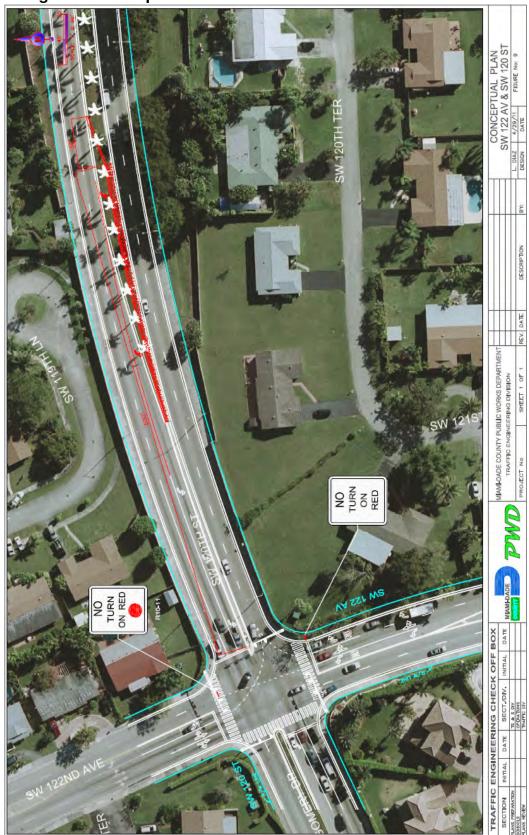


Figure 9: Conceptual Plan – SW 122 Avenue and SW 120 Street



# 3.3. SW 137 Avenue and SW 26 Street (Coral Way)

#### 3.3.1. Site Description

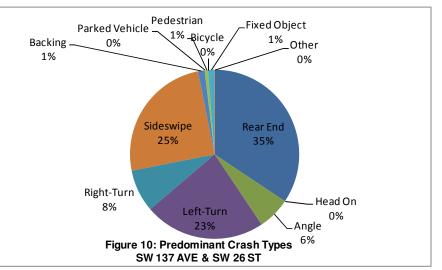
This intersection is a signalized four legged intersection located in the unincorporated area of the western part of Miami Dade County. SW 137 Avenue is a six lane urban arterial divided by a raised median that runs north-south, and SW 26 Street is a four lane urban arterial divided by a raised median that runs east-west.

#### 3.3.2. Safety Conditions and Analysis

The intersection of SW 137 Avenue and SW 26 Street is ranked number 3 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 160 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 53. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 10*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 10* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.814, 2.367, and 1.717, respectively. The safety ratio for the three years averaged 1.966. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that left-turn, right-turn and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Also, rear end crash type exceeds the limit for 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 11*.



|                        |  | (0.1                      |           |            |                           |            | & SW 26 S                    |                |                 | 0   |             |                                      |                 |
|------------------------|--|---------------------------|-----------|------------|---------------------------|------------|------------------------------|----------------|-----------------|---|-------------|--------------------------------------|-----------------|
|                        |  | (6 Lane                   | x 4 Lane  | Signaliz   | ed, With Tu               | urn Lanes, | 4 Leg Inters                 | ection-Table   | 35) - URBAN     | I Spot                                    |             |                                      |                 |
|                        | TYPE OF CRASH                                  | NUMBE                     | R OF CR   | ASHES      | 3 YEAR<br>TOTAL           | %<br>of    | MEAN<br>Accidents            |                | ANNUAL CF       | ASH VALUE                                 |             | ALLY HIGH<br>90th                    | CRASHES<br>95th |
|                        |  | 2006                      | 2007      | 2008       | CRASHE                    | Total      | per Year                     | MEAN           | Percentile      | Percentile                                | Mean        | Percentil                            |                 |
| OLLISION TYPE          | Rear End                                       | 16<br>0                   | 22<br>0   | 17<br>0    | 55<br>0                   | 17%<br>0%  | 18.33<br>0.00                | 8.68<br>0.60   | 17.26           | 18.90                                     | Х           | Х                                    |                 |
|                        | Head On<br>Angle                               | 0                         | 5         | 5          | 10                        | 2%         | 3.33                         | 5.40           | 1.64<br>9.19    | 1.84<br>9.92                              |             |                                      |                 |
|                        | Left Turn                                      | 17                        | 10        | 10         | 37                        | 9%         | 12.33                        | 3.00           | 6.13            | 6.73                                      | Х           | Х                                    | Х               |
|                        | Right Turn                                     | 4                         | 6         | 3          | 13                        | 3%         | 4.33                         | 0.46           | 1.36            | 1.53                                      | X           | X                                    | X               |
|                        | Sideswipe<br>Backed Into                       | 10<br>1                   | 20<br>0   | 10<br>1    | 40                        | 8%<br>0%   | 13.33<br>0.67                | 2.58<br>0.28   | 4.92<br>0.84    | 5.37<br>0.94                              | X<br>X      | X                                    | X               |
|                        | Coll. w/ Parked Car                            | 0                         | 0         | 0          | 0                         | 0%         | 0.00                         | 0.12           | 0.57            | 0.65                                      | ~           |                                      |                 |
|                        | Coll. w/ Pedestrian                            | 1                         | 0         | 0          | 1                         | 0%         | 0.33                         | 0.74           | 1.80            | 2.00                                      |             |                                      |                 |
|                        | Coll. w/ Bicycle<br>Fixed Object               | 0                         | 0         | 0          | 0                         | 0%<br>0%   | 0.00                         | 0.14 0.79      | 0.49 2.01       | 0.55                                      |             |                                      |                 |
|                        | Ran Off Road                                   | 0                         | 0         | 0          | 0                         | 0%         | 0.00                         | 0.01           | 0.11            | 0.13                                      |             |                                      |                 |
|                        | Overtuned                                      | 0                         | 0         | 0          | 0                         | 0%         | 0.00                         | 0.04           | 0.28            | 0.33                                      |             |                                      |                 |
|                        | Other  | 0<br>49                   | 0         | 0          | 0                         | 0%<br>23%  | 0.00 53.33                   | 8.67           | 21.05<br>54.94  | 23.42                                     | x           |                                      |                 |
| EVERITY                | Total Crashes<br>PDO crashes                   | 49<br>45                  | 64<br>63  | 47<br>40   | 160<br>148                | 23%<br>93% | 49.33                        | 31.51<br>19.21 | 36.95           | 59.43<br>40.35                            | X           | x                                    | x               |
|                        | Fatal crashes                                  | 0                         | 0         | 0          | 0                         | 0%         | 0.00                         | 0.16           | 0.56            | 0.63                                      | ~           | ~                                    | ~               |
|                        | Injury crashes                                 | 4                         | 1         | 7          | 12                        | 8%         | 4.00                         | 20.77          | 38.34           | 41.71                                     |             |                                      |                 |
| IGHT CONDITIONS        | Day Light<br>Dusk                              | 36<br>0                   | 45<br>0   | 34<br>0    | 115<br>0                  | 72%<br>0%  | 38.33<br>0.00                | 19.89<br>0.61  | 35.12<br>1.43   | 38.03<br>1.58                             | X           | X                                    | X               |
|                        | Dusk<br>Dawn                                   | 3                         | 0         | 1          | 4                         | 3%         | 1.33                         | 0.61           | 1.43            | 1.58                                      | x           | x                                    | x               |
|                        | Dark   | 9                         | 17        | 12         | 38                        | 24%        | 12.67                        | 10.22          | 18.94           | 20.61                                     | Х           |                                      | Ê               |
|                        | Unknown  | 1                         | 2         | 0          | 3                         | 2%         | 1.00                         | 0.41           | 1.15            | 1.30                                      | X           |                                      |                 |
| URFACE CONDITIONS      | Dry<br>Wet                                     | 28<br>4                   | 51<br>11  | 42<br>5    | 121<br>20                 | 76%<br>13% | 40.33<br>6.67                | 26.41<br>4.41  | 45.71<br>8.78   | 49.41<br>9.62                             | X<br>X      |                                      |                 |
|                        | Others   | 4                         | 2         | 0          | 19                        | 13%        | 6.33                         | 0.69           | 1.88            | 2.11                                      | X           | x                                    | x               |
| IONTH OF A YEAR        | January  | 3                         | 7         | 5          | 15                        | 9%         | 5.00                         | 2.57           | 5.04            | 5.52                                      | X           |                                      |                 |
|                        | February                                       | 5                         | 6         | 5          | 16                        | 10%        | 5.33                         | 2.37           | 4.59            | 5.02                                      | X           | Х                                    | X               |
|                        | March<br>April                                 | 2                         | 5         | 4          | 11<br>7                   | 7%<br>4%   | 3.67<br>2.33                 | 3.09<br>2.57   | 5.92<br>5.30    | 6.46<br>5.82                              | X           |                                      |                 |
|                        | May  | 5                         | 4         | 6          | 15                        | 9%         | 5.00                         | 2.51.          | 4.81            | 5.25                                      |             | x                                    |                 |
|                        | June   | 6                         | 3         | 2          | 11                        | 7%         | 3.67                         | 2.81           | 5.74            | 6.30                                      | Х           |                                      |                 |
|                        | July   | 5                         | 5         | 4          | 14                        | 9%         | 4.67                         | 2.60           | 4.96            | 5.42                                      | X           |                                      |                 |
|                        | August<br>September                            | 1                         | 3         | 3<br>5     | 21                        | 4%<br>13%  | 2.33<br>7.00                 | 3.00<br>2.48   | 5.66<br>4.92    | 6.17<br>5.39                              | x           | x                                    | x               |
|                        | October  | 8                         | 7         | 3          | 18                        | 11%        | 6.00                         | 2.89           | 5.40            | 5.88                                      | X           | X                                    | x               |
|                        | November                                       | 3                         | 6         | 5          | 14                        | 9%         | 4.67                         | 2.41           | 4.85            | 5.32                                      | X           |                                      |                 |
| DAY OF THE WEEK        | December                                       | 1 5                       | 6<br>5    | 4          | 11                        | 7%<br>10%  | 3.67<br>5.33                 | 2.22 4.00      | 4.55<br>6.58    | 5.00<br>7.08                              | X           |                                      |                 |
| AT OF THE WEEK         | Sunday<br>Monday                               | 4                         | 5<br>17   | 5          | 26                        | 10%        | 8.67                         | 4.00           | 9.23            | 10.11                                     | x           |                                      |                 |
|                        | Tuesday  | 10                        | 10        | 6          | 26                        | 16%        | 8.67                         | 4.46           | 7.81            | 8.46                                      | X           | х                                    | х               |
|                        | Wednesday                                      | 6                         | 5         | 7          | 18                        | 11%        | 6.00                         | 4.56           | 8.62            | 9.40                                      | X           |                                      |                 |
|                        | Thursday<br>Friday                             | 4                         | 9<br>12   | 6<br>11    | 19<br>32                  | 12%<br>20% | 6.33<br>10.67                | 5.04<br>4.86   | 9.04<br>9.39    | 9.80<br>10.26                             | X           | x                                    | x               |
|                        | Saturday                                       | 11                        | 6         | 6          | 23                        | 14%        | 7.67                         | 3.98           | 8.10            | 8.89                                      | x           | ^                                    | <u>^</u>        |
| IOUR OF THE DAY        | 00:00-06:00                                    | 1                         | 2         | 0          | 3                         | 2%         | 1.00                         | 3.79           | 8.65            | 9.58                                      |             |                                      |                 |
|                        | 06:00-09:00                                    | 5                         | 9         | 10         | 24                        | 15%        | 8.00                         | 3.44           | 6.94            | 7.61                                      | X           | X                                    | X               |
|                        | 09:00-11:00<br>11:00-13:00                     | 7                         | 8         | 4<br>10    | 19<br>22                  | 12%<br>14% | 6.33<br>7.33                 | 2.58<br>3.12   | 5.30<br>5.78    | 5.82<br>6.29                              | X           | X                                    | X               |
|                        | 13:00-15:00                                    | 7                         | 12        | 1          | 20                        | 13%        | 6.67                         | 3.57           | 6.32            | 6.85                                      | Х           | X                                    |                 |
|                        | 15:00-18:00                                    | 10                        | 13        | 9          | 32                        | 20%        | 10.67                        | 6.38           | 11.52           | 12.50                                     | X           |                                      |                 |
|                        | 18:00-24:00                                    | 11                        | 16        | 13         | 40                        | 25%        | 13.33                        | 8.60           | 15.51           | 16.83                                     | X           |                                      |                 |
|                        |  |                           |           |            |                           | YEAR       |                              | 3-Year         | 1               |   |             |                                      |                 |
|                        |  |                           |           |            | 1                         | 2          | 3                            | Average        |                 |   |             |                                      |                 |
| verage Daily Traffic   | ADT (Vehicles per D                            | Day)                      |           |            | 66,914                    | 68,280     | 69,673                       | 68,289         |                 |   |             |                                      |                 |
| lorida Average Crasl   | n rate (Crashes per                            | Million En                | tering Ve | hicles)    | 0.579                     | 0.568      | 0.566                        | 0.571          | 1               |   |             |                                      |                 |
| raffic Base            |  |                           | -         |            | 24.424                    | 24.922     | 25.431                       | 24.925         | 1               |   |             |                                      |                 |
| ctual Crash Rate (C    | rashes ner Million E                           | ntering V                 | ehicles   |            | 2.006                     | 2.568      | 1.848                        | 2.141          | 1               |   |             |                                      |                 |
|                        |  | -                         | ,         |            |                           |            | -                            |                | 4               |   |             |                                      |                 |
| Critical Crash Rate (C | Jasties per Million E                          | menng V                   | enicies)  |            | 1.106                     | 1.085      | 1.076                        | 1.089          | 4               |   |             |                                      |                 |
| Safety Ratio           |  |                           |           |            | 1.814                     | 2.367      | 1.717                        | 1.966          | 1               |   |             |                                      |                 |
| ligh Crash Location    | 1??  |                           |           |            | YES                       | YES        | YES                          | YES            |                 |   |             |                                      |                 |
| Actual Crash           | $Rate = \frac{A \times 1,00}{V}$               | 0,000                     |           |            | al number o<br>rage Annua |            |                              | f crashes by   | type occurri    | ng in a 1 year                            | period.     |                                      |                 |
| CriticalCrashR         | $ate = AVR + \frac{0.5}{TB} + \frac{0.5}{TB}$  | $TF\sqrt{\frac{AVI}{TB}}$ | 2         | TB = Trans | affic Base                |            | ash Rate for                 | a particular   | type of interse | ection or road                            |             | nt.<br>Constant Z                    | -1              |
| Traffic Base =         | $\frac{Y ears \times ADT \times 3}{1,000,000}$ | 65                        |           | = 1.       |                           | ə 95% Cor  | nfidence Lev<br>Confidence L |                |                 | 68.30<br>86.60<br>90.00<br>95.00          | )<br>)<br>) | 1.00<br>1.50<br>1.64<br>1.96         |                 |
| Safety Ratio           | $= \frac{Actual Crash}{Critical Crash}$        | n Rate<br>h Rate          | _         |            |                           |            |                              |                |                 | 95.50<br>98.80<br>99.00<br>99.70<br>99.92 | )<br>)<br>) | 2.00<br>2.50<br>2.58<br>3.00<br>3.29 |                 |

# Table 10 – Crash Analysis – SW 137 Avenue and SW 26 Street



#### Table 11 – Abnormal Crash Details & Countermeasures SW 137 Avenue and SW 26 Street

|            | (6 Lane x 4 L   | ane, Signalized, W  | 37 Aven<br>ith Turn La   |  |   |   | e 35) - URI   | BAN Spot  |   |   |
|------------|---|---|--|--|---|---|---|---|---|---|
|            | (0 2010 X 1 2   |   |  | -  | -<br>-  |   |   |   |   |   |
|            |   |   | NUMBE  | R OF CR  | ASHES   | 3 YEAR<br>TOTAL   | %<br>of   | MEAN<br>Accidents   | Possible  | Counter-  |
|            |   |   | 2006   | 2007   | 2008  | CRASHE  | Total   | per Year  | Cause(s)  | measure(s)  |
|            | Total Left Tu   | m Crashes<br>Day Light  | 17   | 10<br>9  | 10  | 37<br>30  | 100%  | 12.33   | (9)<br>(13)   | 9<br>16   |
|            | Lighting Conditions   | Day Light   | 14<br>0  | 0  | 0   | 0   | 81%<br>0%   | 10.00<br>0.00   | (13)  | 17  |
|            |   | Dark  | 3  | 1  | 3   | 7   | 19%   | 2.33  |   |   |
|            |   | 00:00 - 06:00<br>06:00 - 09:00  | 1  | 0  | 0   | 1<br>5  | 3%<br>14%   | 0.33  |   |   |
|            |   | 09:00 - 11:00   | 3  | 3  | 0   | 6   | 16%   | 2.00  |   |   |
| Left Turn  | Hours of Day  | 11:00 - 13:00<br>13:00 - 15:00  | 4  | 0  | 3<br>0  | 7 4   | 19%<br>11%  | 2.33<br>1.33  |   |   |
|            |   | 15:00 - 18:00   | 3  | 1  | 1   | 5   | 14%   | 1.67  |   |   |
|            |   | 18:00 - 24:00<br>NB → WB  | 4  | 1 7  | 4   | 9<br>14   | 24%<br>38%  | 3.00<br>4.67  |   |   |
|            |   | $WB \rightarrow SB$   | 2  | 0  | 4   | 6   | 16%   | 2.00  |   |   |
|            | Direction   | $\frac{\text{SB} \rightarrow \text{EB}}{\text{EB} \rightarrow \text{NB}}$   | 8  | 2  | 3   | 13<br>4   | 35%<br>11%  | 4.33<br>1.33  |   |   |
|            |   | Unknown   | 0  | 0  | 0   | 0   | 0%  | 0.00  |   |   |
|            |   |   |  |  |   |   |   |   |   |   |
|            |   |   | NUMBE  | R OF CR  | ASHES   | 3 YEAR  | %   | MEAN  | Possible  | Counter-  |
|            |   |   |  | YEAR   |   | TOTAL   | of  | Accidents   | Cause(s)  | measure(s)  |
|            | Total Sideswi   | pe Crashes  | 2006<br>10   | 2007<br>20   | 2008<br>10  | CRASHE<br>40  | Total<br>100%   | per Year<br>13.33   | (8)   | 4   |
|            |   | Day Light   | 8  | 14   | 6   | 28  | 70%   | 9.33  | (16)  | 19  |
|            | Lighting Conditions   | Dawn<br>Dark  | 0  | 0  | 0   | 0<br>12   | 0%<br>30%   | 0.00 4.00   | (18)<br>(19)  | 20<br>21  |
|            |   | 00:00 - 06:00   | 1  | 1  | 4<br>0  | 2   | 5%  | 0.67  | (20)  | £1  |
|            |   | 06:00 - 09:00   | 0  | 3  | 2   | 5   | 13%<br>5%   | 1.67  | (21)  |   |
| Sideswipe  | Hours of Day  | 09:00 - 11:00<br>11:00 - 13:00  | 2  | 1  | 2   | 2<br>5  | 13%   | 0.67  |   |   |
| (Overtake) |   | 13:00 - 15:00   | 2  | 1  | 0   | 3   | 8%  | 1.00  |   |   |
|            |   | 15:00 - 18:00<br>18:00 - 24:00  | 1 4  | 9<br>4   | 1   | 11<br>12  | 28%<br>30%  | 3.67<br>4.00  |   |   |
|            |   | North   | 6  | 4  | 4   | 14  | 35%   | 4.67  |   |   |
|            | Direction   | South<br>East   | 0  | 5<br>6   | 2   | 7   | 18%<br>28%  | 2.33<br>3.67  |   |   |
|            |   | West  | 1  | 5  | 2   | 8   | 20%   | 2.67  |   |   |
|            |   | Unknown   | 0  | 0  | 0   | 0   | 0%  | 0.00  |   |   |
|            |   |   |  |  |   |   |   |   |   |   |
|            |   |   |  |  |   |   | 0/  |   |   |   |
|            |   |   | NUMBE  | R OF CR<br>YEAR  | ASHES   | 3 YEAR  | %<br>of   | MEAN<br>Accidents   | Possible  | Counter-  |
|            |   |   | 2006   | YEAR<br>2007   | 2008  | 3 YEAR<br>TOTAL<br>CRASHE   | %<br>of<br>Total  | MEAN<br>Accidents<br>per Year   | Possible<br>Cause(s)  | Counter-<br>measure(s)  |
|            | Total Right Tu  |   | 2006<br>4  | YEAR<br>2007<br>6  | 2008<br>3   | TOTAL<br>CRASHE<br>13   | of<br>Total<br>100%   | Accidents<br>per Year<br>4.33   | Cause(s)<br>(1)   | <mark>measure(s)</mark><br>4  |
|            | Total Right Tu<br>Lighting Conditions   | urn Crashes<br>Day Light<br>Dawn  | 2006   | YEAR<br>2007   | 2008  | TOTAL<br>CRASHE   | of<br>Total   | Accidents<br>per Year   | Cause(s)  | measure(s)  |
|            |   | Day Light<br>Dawn<br>Dark   | 2006<br>4<br>4<br>0<br>0   | YEAR<br>2007<br>6<br>3<br>3<br>0   | 2008<br>3<br>0<br>0   | <b>TOTAL</b><br><b>CRASHE</b><br>13<br>10<br>3<br>0   | of<br>Total<br>100%<br>77%<br>23%<br>0%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00   | Cause(s)<br>(1)<br>(18)   | <mark>measure(s)</mark><br>4<br>19  |
|            |   | Day Light<br>Dawn   | 2006<br>4<br>4<br>0  | YEAR<br>2007<br>6<br>3<br>3  | 2008<br>3<br>0  | TOTAL<br>CRASHE<br>13<br>10<br>3  | of<br>Total<br>100%<br>77%<br>23%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00   | Cause(s)<br>(1)<br>(18)<br>(19)   | measure(s)<br>4<br>19   |
|            | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00  | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>3   | YEAR<br>2007<br>6<br>3<br>3<br>0<br>0<br>0<br>0<br>1   | 2008<br>3<br>0<br>0<br>0<br>1<br>0  | <b>TOTAL</b><br><b>CRASHE</b><br>10<br>3<br>0<br>0<br>1<br>4  | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>0%<br>0%<br>8%<br>31%  | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>1.33   | Cause(s)<br>(1)<br>(18)<br>(19)   | <mark>measure(s)</mark><br>4<br>19  |
| Right Turn |   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00   | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>3<br>1   | YEAR<br>2007<br>6<br>3<br>3<br>0<br>0<br>0<br>0  | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0  | TOTAL<br>CRASHE<br>13<br>10<br>3<br>0<br>0<br>0<br>1  | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>0%<br>0%<br>8%<br>31%<br>8%  | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>1.33<br>0.33   | Cause(s)<br>(1)<br>(18)<br>(19)   | <mark>measure(s)</mark><br>4<br>19  |
| Right Turn | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00   | 2006<br>4<br>0<br>0<br>0<br>0<br>3<br>1<br>1<br>0<br>0   | YEAR<br>2007<br>6<br>3<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>1<br>0  | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>2   | <b>TOTAL</b><br><b>CRASHE</b><br><b>13</b><br>10<br>3<br>0<br>0<br>1<br>4<br>1<br>1<br>2  | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>0%<br>0%<br>8%<br>31%<br>8%<br>8%<br>8%<br>15%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0  | Cause(s)<br>(1)<br>(18)<br>(19)   | <mark>measure(s)</mark><br>4<br>19  |
| Right Turn | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00  | 2006<br>4<br>0<br>0<br>0<br>0<br>3<br>1<br>0   | YEAR<br>2007<br>6<br>3<br>3<br>0<br>0<br>0<br>1<br>1<br>1  | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0   | <b>TOTAL</b><br><b>CRASHE</b><br><b>13</b><br>10<br>3<br>0<br>0<br>1<br>4<br>1<br>1   | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>0%<br>0%<br>8%<br>31%<br>8%<br>8%  | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0  | Cause(s)<br>(1)<br>(18)<br>(19)   | <mark>measure(s)</mark><br>4<br>19  |
| Right Turn | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB  | 2006<br>4<br>0<br>0<br>0<br>3<br>1<br>1<br>0<br>0<br>0<br>2<br>1   | YEAR           2007         6           3         3           0         0           1         0           1         0           4         3           3         3  | 2008<br>3<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>2<br>0<br>0<br>1<br>1   | <b>TOTAL</b><br><b>CRASHE</b><br><b>13</b><br>10<br>3<br>0<br>0<br>1<br>4<br>1<br>1<br>2<br>4<br>6<br>5   | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>0%<br>8%<br>31%<br>8%<br>8%<br>15%<br>31%<br>31%<br>31%<br>33%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0.33<br>0  | Cause(s)<br>(1)<br>(18)<br>(19)   | <mark>measure(s)</mark><br>4<br>19  |
| Right Turn | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 13:00<br>15:00 - 18:00<br>15:00 - 18:00<br>NB→EB  | 2006<br>4<br>0<br>0<br>0<br>0<br>3<br>1<br>0<br>0<br>0<br>0<br>0<br>2  | YEAR<br>2007<br>6<br>3<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>4<br>3  | 2008<br>3<br>0<br>0<br>1<br>0<br>0<br>0<br>2<br>0<br>0<br>1   | <b>TOTAL</b><br><b>CRASHE</b><br><b>13</b><br>10<br>3<br>0<br>0<br>1<br>1<br>1<br>1<br>2<br>4<br>6  | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>0%<br>0%<br>8%<br>31%<br>8%<br>31%<br>8%<br>31%<br>46%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0.33<br>0  | Cause(s)<br>(1)<br>(18)<br>(19)   | <mark>measure(s)</mark><br>4<br>19  |
| Right Turn | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB   | 2006<br>4<br>0<br>0<br>0<br>3<br>1<br>1<br>0<br>0<br>0<br>2<br>1   | YEAR           2007         6           3         0           0         0           1         0           4         3           3         0  | 2008<br>3<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>2<br>0<br>0<br>1<br>1   | <b>TOTAL</b><br><b>CRASHE</b><br><b>13</b><br>10<br>3<br>0<br>1<br>4<br>1<br>1<br>2<br>4<br>6<br>5<br>2<br>2  | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>0%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>15%<br>31%<br>31%<br>38%<br>15%<br>38%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0  | Cause(s)<br>(1)<br>(18)<br>(19)   | <mark>measure(s)</mark><br>4<br>19  |
| Right Turn | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB   | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>3<br>1<br>0<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | YEAR           2007         6           3         3           0         0           1         0           1         0           4         3           3         0           0         0  | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>2<br>0<br>0<br>1<br>1<br>1<br>1<br>0  | <b>TOTAL</b><br><b>CRASHE</b><br><b>13</b><br>0<br>0<br>1<br>1<br>4<br>1<br>1<br>2<br>4<br>6<br>5<br>2<br>0<br>0  | of<br>Total<br>100%<br>23%<br>0%<br>0%<br>8%<br>31%<br>8%<br>8%<br>8%<br>8%<br>31%<br>46%<br>31%<br>15%<br>0%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0  | Cause(s)<br>(1)<br>(18)<br>(19)   | measure(s)<br>4<br>19   |
| Right Turn | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB   | 2006<br>4<br>0<br>0<br>0<br>3<br>1<br>0<br>0<br>0<br>0<br>2<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | YEAR<br>2007<br>6<br>3<br>3<br>0<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2008<br>3<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | TOTAL<br><u>CRASHE</u><br>13<br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>6<br>5<br>2<br>0<br>0<br>0<br>3<br>YEAR  | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>8%<br>8%<br>31%<br>8%<br>15%<br>31%<br>8%<br>15%<br>33%<br>15%<br>33%<br>0%<br>0%  | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.03<br>1.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.03<br>0.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.03<br>0.03<br>0.03<br>0.03<br>0.067<br>0.67<br>0.67<br>0.00<br>0.00<br>0.00<br>0.67<br>0.67<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.  | Cause(s)<br>(1)<br>(18)<br>(19)<br>(20)   | measure(s)<br>4<br>19<br>21   |
| Right Turn | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB   | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | YEAR<br>2007<br>6<br>3<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>4<br>3<br>0<br>0<br>0<br>0<br>0<br>0<br>CR OF CR<br>YEAR  | 2008<br>3<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>8<br>ASHES  | TOTAL<br><u>CRASHE</u><br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>4<br>6<br>5<br>2<br>0<br>0<br>3<br>YEAR<br>TOTAL   | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>46%<br>31%<br>46%<br>0%<br>0%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0  | Cause(s)<br>(1)<br>(18)<br>(19)   | measure(s)<br>4<br>19   |
| Right Turn | Lighting Conditions   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown  | 2006<br>4<br>0<br>0<br>0<br>3<br>1<br>0<br>0<br>0<br>0<br>2<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | YEAR<br>2007<br>6<br>3<br>3<br>0<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2008<br>3<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | TOTAL<br><u>CRASHE</u><br>13<br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>6<br>5<br>5<br>2<br>0<br>0<br>0<br>3<br>YEAR<br>TOTAL<br><u>CRASHE</u>   | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>46%<br>33%<br>15%<br>0%<br>0%<br>0%<br>0%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>per Year  | Cause(s)<br>(1)<br>(18)<br>(19)<br>(20)<br>Possible<br>Cause(s)                                 | Measure(s)<br>4<br>19<br>21<br>21   |
| Right Turn | Lighting Conditions<br>Hours of Day<br>Direction  | Day Light           Dawn           Dark           00:00 - 06:00           06:00 - 09:00           09:00 - 11:00           13:00 - 13:00           13:00 - 15:00           15:00 - 18:00           18:00 - 24:00           NB→EB           EB→SB           WB→NB           SB→WB           Unknown   | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | YEAR           2007           6           3           0           0           1           0           1           0           1           0           1           0           1           0 </td <td>2008<br/>3<br/>3<br/>0<br/>0<br/>0<br/>1<br/>0<br/>0<br/>0<br/>2<br/>0<br/>1<br/>1<br/>1<br/>0<br/>0<br/>0<br/><b>ASHES</b><br/>2008<br/>17<br/>14</td> <td>TOTAL<br/><u>CRASHE</u><br/>10<br/>3<br/>0<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>2<br/>4<br/>6<br/>5<br/>2<br/>0<br/>0<br/>3<br/>YEAR<br/>TOTAL<br/><u>CRASHE</u><br/>55<br/>44</td> <td>of<br/>Total<br/>100%<br/>77%<br/>23%<br/>0%<br/>0%<br/>8%<br/>8%<br/>8%<br/>8%<br/>8%<br/>8%<br/>31%<br/>46%<br/>38%<br/>15%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%</td> <td>Accidents<br/>per Year<br/>4.33<br/>3.33<br/>1.00<br/>0.00<br/>0.33<br/>0.33<br/>0.33<br/>0.33<br/>0.33<br/>0.67<br/>1.33<br/>2.00<br/>1.67<br/>0.67<br/>0.07<br/>0.00<br/>0.00<br/>MEAN<br/>Accidents<br/>per Year<br/>18.33<br/>14.67</td> <td>Cause (s)<br/>(1)<br/>(18)<br/>(19)<br/>(20)<br/>(20)<br/>Possible<br/>Cause (s)<br/>(1)<br/>(2)</td> <td>Counter-<br/>mea sure (s)</td>  | 2008<br>3<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br><b>ASHES</b><br>2008<br>17<br>14   | TOTAL<br><u>CRASHE</u><br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>6<br>5<br>2<br>0<br>0<br>3<br>YEAR<br>TOTAL<br><u>CRASHE</u><br>55<br>44   | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>46%<br>38%<br>15%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.07<br>0.00<br>0.00<br>MEAN<br>Accidents<br>per Year<br>18.33<br>14.67  | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>Possible<br>Cause (s)<br>(1)<br>(2)         | Counter-<br>mea sure (s)  |
| Right Turn | Lighting Conditions<br>Hours of Day<br>Direction  | Day Light           Dawn           Dark           00:00 - 06:00           06:00 - 09:00           09:00 - 11:00           11:00 - 13:00           13:00 - 15:00           18:00 - 24:00           NB→EB           EB→SB           WB→NB           SB→WB           Unknown   | 2006<br>4<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | YEAR           2007           6           3           0           0           1           0           1           0           1           0           1           0           1           0           1           0 </td <td>2008<br/>3<br/>0<br/>0<br/>1<br/>0<br/>0<br/>2<br/>0<br/>1<br/>1<br/>0<br/>0<br/>1<br/>1<br/>0<br/>0<br/>ASHES<br/>2008<br/>17</td> <td>TOTAL<br/><u>CRASHE</u><br/>13<br/>0<br/>0<br/>1<br/>1<br/>1<br/>1<br/>2<br/>4<br/>6<br/>5<br/>2<br/>0<br/>0<br/>3<br/>YEAR<br/>TOTAL<br/><u>CRASHE</u><br/>55</td> <td>of<br/>Total<br/>100%<br/>77%<br/>23%<br/>0%<br/>8%<br/>8%<br/>31%<br/>8%<br/>8%<br/>15%<br/>8%<br/>31%<br/>46%<br/>38%<br/>15%<br/>0%<br/>0%<br/>0%</td> <td>Accidents<br/>per Year<br/>4.33<br/>3.33<br/>1.00<br/>0.00<br/>0.03<br/>1.33<br/>0.33<br/>0.33<br/>0.33<br/>0.67<br/>1.33<br/>2.00<br/>1.67<br/>0.67<br/>0.00<br/>0.00<br/>0.00<br/>0.00<br/>1.67<br/>0.00<br/>0.00<br/>1.67<br/>0.00<br/>0.00<br/>1.67<br/>0.00<br/>1.67<br/>0.00<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67<br/>1.67</td> <td>Cause (s)<br/>(1)<br/>(18)<br/>(19)<br/>(20)<br/>(20)<br/>(20)<br/>(20)<br/>(20)<br/>(20)<br/>(20)<br/>(20</td> <td>Counter-<br/>measure(s)</td>  | 2008<br>3<br>0<br>0<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>ASHES<br>2008<br>17   | TOTAL<br><u>CRASHE</u><br>13<br>0<br>0<br>1<br>1<br>1<br>1<br>2<br>4<br>6<br>5<br>2<br>0<br>0<br>3<br>YEAR<br>TOTAL<br><u>CRASHE</u><br>55  | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>8%<br>8%<br>31%<br>8%<br>8%<br>15%<br>8%<br>31%<br>46%<br>38%<br>15%<br>0%<br>0%<br>0%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.03<br>1.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>1.67<br>0.00<br>0.00<br>1.67<br>0.00<br>0.00<br>1.67<br>0.00<br>1.67<br>0.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67 | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>(20)<br>(20)<br>(20)<br>(20)<br>(20)<br>(20 | Counter-<br>measure(s)  |
| Right Turn | Lighting Conditions<br>Hours of Day<br>Direction  | $\begin{array}{c} \mbox{Day Light} \\ \mbox{Day M} \\ \mbox{Dark} \\ \mbox{Dark} \\ \mbox{Obs} \\ \$                  | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | YEAR<br>2007<br>6<br>3<br>0<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>4<br>3<br>0<br>0<br>0<br>0<br>0<br>0<br>5<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>ASHES<br>2008<br>17<br>14<br>0<br>3<br>0<br>0  | TOTAL<br>CRASHE<br>13<br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>4<br>6<br>5<br>2<br>0<br>0<br>0<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>55<br>44<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | of<br>Total<br>100%<br>777%<br>23%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>46%<br>38%<br>15%<br>15%<br>31%<br>46%<br>0%<br>0%<br>0%<br>0%   | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.67<br>0.00<br>MEAN<br>Accidents<br>per Year<br>18.33<br>14.67<br>0.00<br>3.67<br>0.00  | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>Possible<br>Cause (s)<br>(1)<br>(2)         | Counter-<br>mea sure (s)  |
| Right Turn | Lighting Conditions<br>Hours of Day<br>Direction  | Day Light           Dark           00:00 - 06:00           06:00 - 09:00           09:00 - 11:00           11:00 - 13:00           13:00 - 15:00           15:00 - 18:00           18:00 - 24:00           NB→EB           EB→SB           WB→NB           SB→WB           Unknown           Day Light           Dawn           Dark           00:00 - 06:00           06:00 - 09:00  | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | YEAR           2007           6           3           0           0           1           0           1           0           1           0           1           0           1           0           0           0           0           0           0           0           0           0           0           0           0           0           10           11           12           17           0           5           0           4  | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | TOTAL<br><u>CRASHE</u><br>13<br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>2<br>4<br>6<br>5<br>2<br>0<br>0<br>0<br>3<br>YEAR<br>TOTAL<br><u>CRASHE</u><br>55<br>44<br>0<br>11<br>11<br>12<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10  | of<br>Total<br>100%<br>23%<br>0%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>46%<br>33%<br>15%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>20%<br>0%<br>20%<br>0%  | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>18.33<br>14.67<br>0.00<br>3.67<br>0.00<br>3.67   | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>Possible<br>Cause (s)<br>(1)<br>(2)         | Counter-<br>mea sure (s)  |
|            | Lighting Conditions<br>Hours of Day<br>Direction  | $\begin{array}{c} \mbox{Day Light} \\ \mbox{Day m} \\ \mbox{Dark} \\ \mbox{Dark} \\ \mbox{Obs} 0 & - 06:00 \\ \mbox{Obs} 06:00 & - 09:00 \\ \mbox{Osc} 09:00 & - 11:00 \\ \mbox{I1:00} & - 13:00 \\ \mbox{I3:00} & - 13:00 \\ \mbox{I3:00} & - 13:00 \\ \mbox{I8:00} & - 24:00 \\ \mbox{NB} \rightarrow EB \\ \mbox{EB} \rightarrow EB \\ \mbox{EB} \rightarrow SB \\ \mbox{WB} \rightarrow NB \\ \mbox{SB} \rightarrow NB \\ \mbox{SB} \rightarrow WB \\ \mbox{Unknown} \\ \mbox{Osc} 00 \\ \mbox{SB} \rightarrow WB \\ \mbox{Unknown} \\ \mbox{Osc} 00 \\ \mbox{Ising} 00:00 & - 06:00 \\ \mbox{Osc} 00 & - 01:00 \\ \mbox{Osc} 00 & - 11:00 \\ \mbox{I1:00} & - 13:00 \\ \mbox{Ising} 00 \\ I$ | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | YEAR           2007           6           3           0           0           1           0           1           0           1           0           1           0           1           0           4           3           0           0           0           0           0           0           0           0           0           17           0           5           0           4           2           3   | 2008<br>3<br>3<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>ASHES<br>2008<br>17<br>14<br>0<br>3<br>0<br>2<br>2<br>3   | TOTAL<br>CRASHE<br>13<br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>4<br>6<br>5<br>2<br>0<br>0<br>0<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>55<br>44<br>0<br>10<br>0<br>0<br>0<br>0<br>1<br>10<br>10<br>10<br>10   | of<br>Total<br>100%<br>777%<br>23%<br>0%<br>23%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>46%<br>38%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>15%<br>0%<br>0%<br>15%<br>13%                             | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.07<br>0.00<br>MEAN<br>Accidents<br>per Year<br>18.33<br>14.67<br>0.00<br>3.67<br>0.00<br>2.67<br>2.00<br>2.33  | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>Possible<br>Cause (s)<br>(1)<br>(2)         | Counter-<br>mea sure (s)  |
| Right Turn | Lighting Conditions Hours of Day Direction Total Rear Er Lighting Conditions              | Day Light           Dark           00:00 - 06:00           06:00 - 09:00           09:00 - 11:00           11:00 - 13:00           13:00 - 15:00           15:00 - 18:00           18:00 - 24:00           NB→EB           EB→SB           WB→NB           SB→WB           Unknown           Dark           00:00 - 06:00           06:00 - 09:00           09:00 - 11:00           11:00 - 15:00   | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>0<br>0<br>2<br>2<br>2<br>2<br>2<br>2<br>1<br>4<br>4<br>4<br>2<br>2<br>2<br>2<br>1<br>4<br>4<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2 | YEAR           2007           6           3           0           0           0           1           0           4           3           0           0           1           0 </td <td>2008<br/>3<br/>0<br/>0<br/>0<br/>1<br/>0<br/>0<br/>0<br/>1<br/>0<br/>0<br/>1<br/>1<br/>0<br/>0<br/>1<br/>1<br/>0<br/>0<br/>1<br/>1<br/>0<br/>0<br/>2<br/>0<br/>1<br/>1<br/>0<br/>0<br/>2<br/>0<br/>1<br/>1<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</td> <td>TOTAL<br/><u>CRASHE</u><br/>13<br/>10<br/>3<br/>0<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>2<br/>4<br/>6<br/>5<br/>2<br/>0<br/>0<br/>0<br/>3<br/>YEAR<br/>TOTAL<br/><u>CRASHE</u><br/>55<br/>44<br/>0<br/>11<br/>0<br/>8<br/>6<br/>7<br/>7<br/>12</td> <td>of<br/>Total<br/>100%<br/>23%<br/>0%<br/>23%<br/>0%<br/>8%<br/>8%<br/>8%<br/>8%<br/>8%<br/>8%<br/>8%<br/>15%<br/>15%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>20%<br/>0%<br/>20%<br/>0%<br/>22%</td> <td>Accidents<br/>per Year<br/>4.33<br/>3.33<br/>1.00<br/>0.00<br/>0.00<br/>0.33<br/>1.33<br/>0.33<br/>0.33<br/>0.67<br/>1.33<br/>2.00<br/>1.67<br/>0.67<br/>0.00<br/>0.00<br/><b>MEAN</b><br/>Accidents<br/>per Year<br/>18.33<br/>14.67<br/>0.00<br/>3.67<br/>2.00<br/>3.67<br/>2.00<br/>3.67<br/>2.00<br/>3.67<br/>2.00<br/>3.67<br/>2.00<br/>3.67<br/>2.00<br/>3.67<br/>2.00<br/>3.67<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.00<br/>3.67<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.67<br/>3.00<br/>3.00<br/>3.00<br/>3.67<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.33<br/>4.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.00<br/>3.</td> <td>Cause (s)<br/>(1)<br/>(18)<br/>(19)<br/>(20)<br/>(20)<br/>Possible<br/>Cause (s)<br/>(1)<br/>(2)</td> <td>Counter-<br/>mea sure (s)</td> | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | TOTAL<br><u>CRASHE</u><br>13<br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>6<br>5<br>2<br>0<br>0<br>0<br>3<br>YEAR<br>TOTAL<br><u>CRASHE</u><br>55<br>44<br>0<br>11<br>0<br>8<br>6<br>7<br>7<br>12  | of<br>Total<br>100%<br>23%<br>0%<br>23%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>15%<br>15%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>20%<br>0%<br>20%<br>0%<br>22%                                | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>18.33<br>14.67<br>0.00<br>3.67<br>2.00<br>3.67<br>2.00<br>3.67<br>2.00<br>3.67<br>2.00<br>3.67<br>2.00<br>3.67<br>2.00<br>3.67<br>2.00<br>3.67<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.00<br>3.67<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.67<br>3.00<br>3.00<br>3.00<br>3.67<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.33<br>4.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3.00<br>3. | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>Possible<br>Cause (s)<br>(1)<br>(2)         | Counter-<br>mea sure (s)  |
|            | Lighting Conditions Hours of Day Direction Total Rear Er Lighting Conditions              | $\begin{array}{c} \mbox{Day Light} \\ \mbox{Day m} \\ \mbox{Dark} \\ \mbox{Dark} \\ \mbox{Obs} 0 & - 06:00 \\ \mbox{O6:00} & - 09:00 \\ \mbox{O9:00} & - 11:00 \\ \mbox{I1:00} & - 13:00 \\ \mbox{I3:00} & - 13:00 \\ \mbox{I3:00} & - 13:00 \\ \mbox{I3:00} & - 24:00 \\ \mbox{NB} \rightarrow EB \\ \mbox{EB} \rightarrow EB \\ \mbox{EB} \rightarrow BB \\ \mbox{WB} \rightarrow NB \\ \mbox{SB} \rightarrow WB \\ \mbox{Unknown} \\ \mbox{Unknown} \\ \mbox{O0:00} & - 06:00 \\ \mbox{O0:00} & - 06:00 \\ \mbox{O0:00} & - 06:00 \\ \mbox{O0:00} & - 11:00 \\ \mbox{I1:00} & - 13:00 \\ \mbox{I1:00} & - 13:00 \\ \mbox{I3:00} & - 15:00 \\ \mbox{I5:00} & - 15:00 \\ \mbox{I8:00} & - 24:00 \\ \mbox{I8:00} & - 24:00 \\ \end{tabular}$  | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | YEAR           2007           6           3           0           0           1           0           1           0           4           3           0           0           1           0           4           3           0           0           0           0           0           0           0           0           0           0           0           0           2007           22           17           0           5           0           4           2           4   | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | TOTAL<br>CRASHE<br>13<br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>4<br>6<br>5<br>2<br>0<br>0<br>0<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>55<br>44<br>0<br>11<br>0<br>8<br>6<br>7<br>12<br>11<br>11<br>11<br>12<br>12<br>14<br>14<br>15<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10   | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>23%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>46%<br>38%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>15%<br>0%<br>0%<br>15%<br>13%<br>22%<br>20%                | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.47<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0  | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>Possible<br>Cause (s)<br>(1)<br>(2)         | Counter-<br>mea sure (s)  |
|            | Lighting Conditions Hours of Day Direction Total Rear Er Lighting Conditions              | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>18:00 - 24:00<br>North  | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>2<br>2<br>0<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>0<br>0<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | YEAR           2007           6           3           0           0           1           0           1           0           1           0           1           0           1           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           10           10           10           10           0           10           10           10           10           10           10           10           10           10           10           10           10           10           10           10           10  | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>0<br>0<br>0<br>2<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0           | TOTAL<br>CRASHE<br>13<br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>6<br>5<br>2<br>0<br>0<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>55<br>44<br>0<br>11<br>0<br>8<br>6<br>7<br>7<br>12<br>11<br>11<br>17<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10  | of<br>Total<br>100%<br>23%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>15%<br>31%<br>46%<br>38%<br>15%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>15%<br>11%<br>100%<br>80%<br>0%<br>20%<br>0%<br>20%<br>31% | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>18.33<br>14.67<br>0.00<br>3.67<br>2.00<br>2.67<br>2.00<br>2.67<br>2.00<br>3.67<br>3.67<br>3.67<br>3.67   | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>Possible<br>Cause (s)<br>(1)<br>(2)         | Counter-<br>mea sure (s)  |
|            | Lighting Conditions Hours of Day Direction Total Rear Er Lighting Conditions              | $\begin{array}{c} \mbox{Day Light} \\ \mbox{Day m} \\ \mbox{Dark} \\ \mbox{Dark} \\ \mbox{Obs} 0 & - 06:00 \\ \mbox{O6:00} & - 09:00 \\ \mbox{O9:00} & - 11:00 \\ \mbox{I1:00} & - 13:00 \\ \mbox{I3:00} & - 13:00 \\ \mbox{I3:00} & - 13:00 \\ \mbox{I3:00} & - 24:00 \\ \mbox{NB} \rightarrow EB \\ \mbox{EB} \rightarrow EB \\ \mbox{EB} \rightarrow BB \\ \mbox{WB} \rightarrow NB \\ \mbox{SB} \rightarrow WB \\ \mbox{Unknown} \\ \mbox{Unknown} \\ \mbox{O0:00} & - 06:00 \\ \mbox{O0:00} & - 06:00 \\ \mbox{O0:00} & - 06:00 \\ \mbox{O0:00} & - 11:00 \\ \mbox{I1:00} & - 13:00 \\ \mbox{I1:00} & - 13:00 \\ \mbox{I3:00} & - 15:00 \\ \mbox{I5:00} & - 15:00 \\ \mbox{I8:00} & - 24:00 \\ \mbox{I8:00} & - 24:00 \\ \end{tabular}$  | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | YEAR           2007           6           3           0           0           1           0           1           0           4           3           0           0           1           0           4           3           0           0           0           0           0           0           0           0           0           0           0           0           2007           22           17           0           5           0           4           2           4   | 2008<br>3<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | TOTAL<br>CRASHE<br>13<br>10<br>3<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>4<br>6<br>5<br>2<br>0<br>0<br>0<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>55<br>44<br>0<br>11<br>0<br>8<br>6<br>7<br>12<br>11<br>11<br>11<br>12<br>12<br>14<br>14<br>15<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10   | of<br>Total<br>100%<br>77%<br>23%<br>0%<br>23%<br>0%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>46%<br>38%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>15%<br>0%<br>0%<br>15%<br>13%<br>22%<br>20%                | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.47<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0  | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>Possible<br>Cause (s)<br>(1)<br>(2)         | Measure(s)           4           19           21   Counter-measure(s)           5           6 |
|            | Lighting Conditions Hours of Day Direction Total Rear Er Lighting Conditions Hours of Day | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>d Crashes<br>Day Light<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South   | 2006<br>4<br>4<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                    | YEAR           2007           6           3           0           0           1           0           1           0           4           3           0           0           1           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           2           17           0           5           0           2           4           8           4   | 2008<br>3<br>0<br>0<br>1<br>0<br>0<br>2<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br><b>ASHES</b><br>2008<br>17<br>14<br>0<br>0<br>3<br>0<br>2<br>2<br>3<br>1<br>5<br>4<br>5<br>4   | TOTAL<br>CRASHE<br>13<br>10<br>3<br>0<br>1<br>4<br>1<br>1<br>2<br>4<br>6<br>5<br>2<br>0<br>0<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>55<br>44<br>0<br>0<br>1<br>0<br>8<br>6<br>7<br>7<br>12<br>13<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10   | of<br>Total<br>100%<br>23%<br>0%<br>0%<br>8%<br>8%<br>31%<br>8%<br>31%<br>46%<br>38%<br>15%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>15%  | Accidents<br>per Year<br>4.33<br>3.33<br>1.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0.33<br>0.67<br>1.33<br>2.00<br>1.67<br>0.67<br>0.00<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>18.33<br>14.67<br>0.00<br>3.67<br>2.00<br>2.33<br>4.00<br>3.67<br>3.67<br>3.67<br>2.67   | Cause (s)<br>(1)<br>(18)<br>(19)<br>(20)<br>(20)<br>Possible<br>Cause (s)<br>(1)<br>(2)         | Measure(s)           4           19           21   Counter-measure(s)           5           6 |



#### 3.3.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 137 Avenue and SW 26 Street were performed on a typical weekday on November 3, 2010. A summary of the traffic data is presented in *Figure 11*, and the field review is presented in *Figure 12*.

This intersection has single left-turn bays for all approaches, and the northbound and eastbound approaches have exclusive right-turn lanes. The left-turn signal operation is protected/permissive for all approaches.

A large number of right-turns were observed for northbound. Also, the eastbound/westbound left-turn movements struggle to cross the opposing through movements. Red light running was observed at the intersection. Vehicles were constantly changing lanes to access the exclusive northbound right-turn lane.

It was noticed that the pavement conditions are deteriorated and pavement markings are faded. The eastbound exclusive right-turn lane has no right arrows pavement markings.

#### 3.3.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 137 Avenue and SW 26 Street, the following is recommended:

- Realignment of the westbound and southbound left-turn lanes to reduce the offset and line-up with the opposite left-turn lanes.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Providing an exclusive right-turn lane for the westbound approach.
- Channelizing northbound and westbound right-turn lanes at the approach.
- Closing the median openings on the north and west legs.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 13.





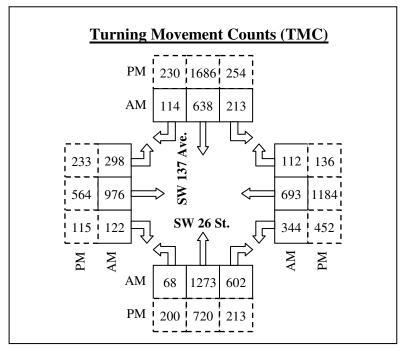


Figure 11: Traffic Data – SW 137 Avenue and SW 26 Street





Figure 12: Field Review – SW 137 Avenue and SW 26 Street





Figure 13: Conceptual Plan – SW 137 Avenue and SW 26 Street

Safety Studies at High Crash Locations Countywide



#### 3.4. SW 117 Avenue and SW 104 Street

#### 3.4.1. Site Description

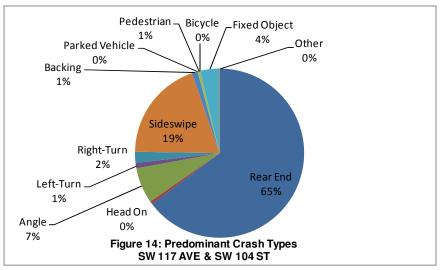
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 117 Avenue is a four lane urban arterial divided by a raised median that runs north-south, and SW 104 Street is a six lane urban arterial divided by a raised median that runs east-west.

#### 3.4.2. Safety Conditions and Analysis

The intersection of SW 117 Avenue and SW 104 Street is ranked number 4 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 190 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 63. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 14*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 12* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.676, 1.880, and 2.001, respectively. The safety ratio for the three years averaged 1.852. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that rear end, sideswipe and fixed object collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 13*.



|                      |  | (6   202         | v 4 Lone         |  |                            |                              | SW 104                |                 | e 35) - URBAN                                | Spot                  |  |                      |                 |
|----------------------|--|------------------|------------------|--|----------------------------|------------------------------|-----------------------|-----------------|--|-----------------------|--|----------------------|-----------------|
|                      |  |                  |                  |  | ed, with it                | Im Lanes,                    |                       |                 |  |                       |  |                      |                 |
|                      | TYPE OF CRASH                                  |                  | ER OF CF<br>YEAR | RASHES                                     | 3 YEAR                     | %                            | MEAN                  | EXPECTED        | ANNUAL CF                                    |                       | ABNORM                                       |                      |                 |
|                      | TTPE OF CRASH                                  | 2006             | 2007             | 2008                                       | TOTAL<br>CRASHE            | of<br>Total                  | Accidents<br>per Year | MEAN            | 90th<br>Percentile                           | 95th<br>Percentile    | Mean   | 90th<br>Percentil    | 95th<br>Percent |
| OLLISION TYPE        | Rear End                                       | 36               | 39               | 48   | 123                        | 32%                          | 41.00                 | 8.68            | 17.26  | 18.90                 | Х  | X                    | X               |
|                      | Head On  | 0                | 1                | 0  | 1                          | 0%                           | 0.33                  | 0.60            | 1.64   | 1.84                  |  |                      |                 |
|                      | Angle<br>Left Turn                             | 7                | 4                | 2  | 13                         | 3%<br>0%                     | 4.33<br>0.67          | 5.40<br>3.00    | 9.19<br>6.13                                 | 9.92<br>6.73          |  |                      |                 |
|                      | Right Turn                                     | 1                | 2                | 1  | 4                          | 1%                           | 1.33                  | 0.46            | 1.36   | 1.53                  | x  |                      |                 |
|                      | Sideswipe                                      | 10               | 15               | 12   | 37                         | 6%                           | 12.33                 | 2.58            | 4.92   | 5.37                  | X  | X                    | Х               |
|                      | Backed Into                                    | 1                | 0                | 1  | 2                          | 0%                           | 0.67                  | 0.28            | 0.84   | 0.94                  | X  |                      |                 |
|                      | Coll. w/ Parked Car<br>Coll. w/ Pedestrian     | 0                | 0                | 0  | 0                          | 0%<br>0%                     | 0.00                  | 0.12            | 0.57   | 0.65                  |  |                      |                 |
|                      | Coll. w/ Bicycle                               | 0                | 0                | 0  | 0                          | 0%                           | 0.00                  | 0.14            | 0.49   | 0.55                  |  |                      |                 |
|                      | Fixed Object                                   | 0                | 3                | 4  | 7                          | 1%                           | 2.33                  | 0.79            | 2.01   | 2.24                  | Х  | X                    | Х               |
|                      | Ran Off Road                                   | 0                | 0                | 0  | 0                          | 0%                           | 0.00                  | 0.01            | 0.11   | 0.13                  |  |                      |                 |
|                      | Overtuned<br>Other                             | 0                | 0                | 0  | 0                          | 0%<br>0%                     | 0.00                  | 0.04 8.67       | 0.28 21.05                                   | 0.33 23.42            |  |                      |                 |
|                      | Total Crashes                                  | 57               | 64               | 69   | 190                        | 24%                          | 63.33                 | 31.51           | 54.94  | 59.43                 | х  | x                    | x               |
| EVERITY              | PDO crashes                                    | 53               | 60               | 64   | 177                        | 93%                          | 59.00                 | 19.21           | 36.95  | 40.35                 | X  | X                    | X               |
|                      | Fatal crashes                                  | 0                | 0                | 0  | 0                          | 0%                           | 0.00                  | 0.16            | 0.56   | 0.63                  |  |                      |                 |
| IGHT CONDITIONS      | Injury crashes                                 | 4                | 4                | 5  | 13                         | 7%                           | 4.33                  | 20.77           | 38.34  | 41.71                 | x  | x                    | x               |
| IGHT CONDITIONS      | Day Light<br>Dusk                              | 41<br>4          | 49<br>3          | 57<br>4                                    | 147<br>11                  | 77%<br>6%                    | 49.00<br>3.67         | 19.89<br>0.61   | 35.12<br>1.43                                | 38.03<br>1.58         | X  | X                    | X               |
|                      | Dawn   | 0                | 0                | 0  | 0                          | 0%                           | 0.00                  | 0.38            | 1.43   | 1.16                  |  | Ê                    | ⊢ ^             |
|                      | Dark   | 12               | 12               | 8  | 32                         | 17%                          | 10.67                 | 10.22           | 18.94  | 20.61                 | X  |                      |                 |
|                      | Unknown  | 0                | 0                | 0  | 0                          | 0%                           | 0.00                  | 0.41            | 1.15   | 1.30                  |  |                      | <u> </u>        |
| SURFACE CONDITION    | S Dry<br>Wet                                   | 49<br>7          | 47<br>15         | 58<br>10                                   | 154<br>32                  | 81%<br>17%                   | 51.33<br>10.67        | 26.41<br>4.41   | 45.71<br>8.78                                | 49.41<br>9.62         | X  | X                    | X<br>X          |
|                      | Others   | 1                | 2                | 1  | 32                         | 2%                           | 1.33                  | 0.69            | 1.88   | 2.11                  | X  |                      | <u>⊢</u> ^      |
| IONTH OF A YEAR      | January  | 9                | 8                | 7  | 24                         | 13%                          | 8.00                  | 2.57            | 5.04   | 5.52                  | x  | X                    | x               |
|                      | February                                       | 2                | 1                | 7  | 10                         | 5%                           | 3.33                  | 2.37            | 4.59   | 5.02                  | X  |                      |                 |
|                      | March  | 7                | 2                | 3  | 12                         | 6%                           | 4.00                  | 3.09            | 5.92   | 6.46                  | X  |                      |                 |
|                      | April<br>May                                   | 75               | 2                | 6<br>10                                    | 15<br>18                   | 8%<br>9%                     | 5.00<br>6.00          | 2.57<br>2.51.   | 5.30<br>4.81                                 | 5.82<br>5.25          | ^  | x                    | x               |
|                      | June   | 5                | 1                | 3  | 9                          | 5%                           | 3.00                  | 2.81            | 5.74   | 6.30                  | х  | ~                    | <u>^</u>        |
|                      | July   | 4                | 6                | 4  | 14                         | 7%                           | 4.67                  | 2.60            | 4.96   | 5.42                  | X  |                      |                 |
|                      | August   | 4                | 3                | 6  | 13                         | 7%                           | 4.33                  | 3.00            | 5.66   | 6.17                  | X  |                      |                 |
|                      | September<br>October                           | 5<br>2           | 18<br>10         | 6<br>9                                     | 29<br>21                   | 15%<br>11%                   | 9.67<br>7.00          | 2.48<br>2.89    | 4.92<br>5.40                                 | 5.39<br>5.88          | X  | X                    | X               |
|                      | November                                       | 4                | 6                | 6  | 16                         | 8%                           | 5.33                  | 2.05            | 4.85   | 5.32                  | x  | x                    | Ŷ               |
|                      | December                                       | 3                | 4                | 2  | 9                          | 5%                           | 3.00                  | 2.22            | 4.55   | 5.00                  | X  |                      |                 |
| DAY OF THE WEEK      | Sunday   | 3                | 5                | 5  | 13                         | 7%                           | 4.33                  | 4.00            | 6.58   | 7.08                  | Х  |                      |                 |
|                      | Monday   | 12               | 9                | 16   | 37                         | 19%                          | 12.33                 | 4.62            | 9.23   | 10.11                 | X  | X                    | X               |
|                      | Tuesday<br>Wednesday                           | 9<br>7           | 14<br>14         | 16<br>9                                    | 39<br>30                   | 21%<br>16%                   | 13.00<br>10.00        | 4.46<br>4.56    | 7.81<br>8.62                                 | 8.46<br>9.40          | X  | X                    | X               |
|                      | Thursday                                       | 6                | 9                | 11   | 26                         | 14%                          | 8.67                  | 5.04            | 9.02   | 9.40                  | x  | ^                    | <u>^</u>        |
|                      | Friday   | 10               | 8                | 9  | 27                         | 14%                          | 9.00                  | 4.86            | 9.39   | 10.26                 | Х  |                      |                 |
|                      | Saturday                                       | 10               | 5                | 3  | 18                         | 9%                           | 6.00                  | 3.98            | 8.10   | 8.89                  | Х  |                      |                 |
| HOUR OF THE DAY      | 00:00-06:00<br>06:00-09:00                     | 6<br>7           | 3<br>9           | 0<br>10                                    | 9<br>26                    | 5%<br>14%                    | 3.00<br>8.67          | 3.79<br>3.44    | 8.65<br>6.94                                 | 9.58<br>7.61          | x  | x                    | x               |
|                      | 09:00-11:00                                    | 6                | 9<br>4           | 8  | 18                         | 9%                           | 6.00                  | 2.58            | 5.30   | 5.82                  | X  | X                    | x               |
|                      | 11:00-13:00                                    | 6                | 3                | 8  | 17                         | 9%                           | 5.67                  | 3.12            | 5.78   | 6.29                  | X  | ^                    | Â               |
|                      | 13:00-15:00                                    | 6                | 7                | 8  | 21                         | 11%                          | 7.00                  | 3.57            | 6.32   | 6.85                  | Х  | Х                    | Х               |
|                      | 15:00-18:00                                    | 10               | 25               | 18   | 53                         | 28%                          | 17.67                 | 6.38            | 11.52  | 12.50                 | X  | X                    | Х               |
|                      | 18:00-24:00                                    | 16               | 13               | 17   | 46                         | 24%                          | 15.33                 | 8.60            | 15.51  | 16.83                 | X  |                      |                 |
|                      |  |                  |                  |  |                            | YEAR                         |                       | 3-Year          | 1  |                       |  |                      |                 |
|                      |  |                  |                  |  | 1                          | 2                            | 3                     | Average         |  |                       |  |                      |                 |
| Verage Daily Troff-  | ADT (Vehicles per D                            | Dav)             |                  |  |                            |                              | -                     | 92,365          | 1  |                       |  |                      |                 |
| ,<br>,               | · ·  |                  |                  |  | 90,505                     | 92,352                       | 94,237                |                 | 4  |                       |  |                      |                 |
| Iorida Average Cras  | h rate (Crashes per                            | Million En       | tering Ve        | nicles)                                    | 0.579                      | 0.568                        | 0.566                 | 0.571           | 1  |                       |  |                      |                 |
| Traffic Base         |  |                  |                  |  | 33.034                     | 33.709                       | 34.397                | 33.713          |  |                       |  |                      |                 |
| Actual Crash Rate (C | Crashes per Million E                          | ntering V        | ehicles)         |  | 1.725                      | 1.899                        | 2.006                 | 1.877           | 1  |                       |  |                      |                 |
|                      | Crashes per Million E                          |                  |                  |  | 1.030                      | 1.010                        | 1.003                 | 1.014           | 1  |                       |  |                      |                 |
| ,                    |  |                  |                  |  |                            | 1.880                        | 2.001                 | 1.852           | 4  |                       |  |                      |                 |
| Safety Ratio         | - 00   |                  |                  |  | 1.676                      |                              |                       |                 | -  |                       |  |                      |                 |
| High Crash Location  | n??  |                  |                  |  | YES                        | YES                          | YES                   | YES             |  |                       |  |                      |                 |
| Actual Crash         | $Rate = \frac{A \times 1,00}{V}$               | 0,000            |                  |  | al number o<br>erage Annua |                              |                       | fcrashes by     | / type occurrin                              | ng in a 1 year        | period.                                      |                      |                 |
| CriticalCrashK       | $Rate = AVR + \frac{0.5}{TB} + \frac{0.5}{TB}$ | R                | TB = Tr          | Average Sta<br>affic Base<br>est Factor (2 |                            | ash Rate for                 | a particular          | type of interse | ection or road                               |                       | nt.<br>Constant Z                            | ]                    |                 |
|                      | $\frac{Years \times ADT \times 3}{1,000,000}$  |                  | = 1.             | 96 (assume                                 | 95% Cor                    | nfidence Lev<br>Confidence I |                       |                 | 68.3<br>86.6<br>90.0<br>95.0<br>95.5<br>98.8 | 0<br>0<br>0<br>0<br>0 | 1.00<br>1.50<br>1.64<br>1.96<br>2.00<br>2.50 |                      |                 |
| Safety Ratio         | $= \frac{Actual Crash}{Critical Crash}$        | n Rate<br>h Rate | -                |  |                            |                              |                       |                 |  | 99.0<br>99.7<br>99.9  | 0<br>0                                       | 2.58<br>3.00<br>3.29 |                 |

# Table 12 – Crash Analysis – SW 117 Avenue and SW 104 Street



### Table 13 – Abnormal Crash Details & Countermeasures SW 117 Avenue and SW 104 Street

| r         |                     | SW 1               | 17 Aven      | ue & S\         | N 104 S    | Street          |            |                   |          |            |
|-----------|---------------------|--------------------|--------------|-----------------|------------|-----------------|------------|-------------------|----------|------------|
|           | (6 Lane x 4 L       | ane, Signalized, W | /ith Turn La | anes, 4 Le      | eg Interse | ection -Table   | ə 35) - UR | BAN Spot          |          |            |
|           |                     |                    | NUMBE        | R OF CR<br>YEAR | ASHES      | 3 YEAR<br>TOTAL | %<br>of    | MEAN<br>Accidents | Possible | Counter-   |
|           |                     |                    | 2006         | 2007            | 2008       | CRASHE          | Total      | per Year          | Cause(s) | measure(s) |
|           | Total Rear E        | nd Crashes         | 36           | 39              | 48         | 123             | 100%       | 41.00             | (1)      | 4          |
|           |                     | Day Light          | 29           | 30              | 40         | 99              | 80%        | 33.00             | (2)      | 5          |
|           | Lighting Conditions | Dawn               | 1            | 1               | 4          | 6               | 5%         | 2.00              | (4)      | 6          |
|           | Lighting Conditions | Dark               | 6            | 8               | 4          | 18              | 15%        | 6.00              |          |            |
|           |                     | 00:00 - 06:00      | 3            | 1               | 0          | 4               | 3%         | 1.33              |          |            |
|           |                     | 06:00 - 09:00      | 4            | 4               | 9          | 17              | 14%        | 5.67              |          |            |
|           |                     | 09:00 - 11:00      | 4            | 4               | 4          | 12              | 10%        | 4.00              |          |            |
| Rear End  | Hours of Day        | 11:00 - 13:00      | 5            | 0               | 5          | 10              | 8%         | 3.33              |          |            |
| near Ellu |                     | 13:00 - 15:00      | 3            | 4               | 5          | 12              | 10%        | 4.00              |          |            |
|           |                     | 15:00 - 18:00      | 7            | 16              | 13         | 36              | 29%        | 12.00             |          |            |
|           |                     | 18:00 - 24:00      | 10           | 10              | 12         | 32              | 26%        | 10.67             |          |            |
|           |                     | North              | 6            | 5               | 11         | 22              | 18%        | 7.33              |          |            |
|           |                     | South              | 7            | 3               | 8          | 18              | 15%        | 6.00              |          |            |
|           | Direction           | East               | 13           | 10              | 17         | 40              | 33%        | 13.33             |          |            |
|           |                     | West               | 10           | 21              | 12         | 43              | 35%        | 14.33             |          |            |
|           |                     | Unknown            | 0            | 0               | 0          | 0               | 0%         | 0.00              |          |            |

|            |                     |               | NUMBE | R OF CR | ASHES | 3 YEAR | %     | MEAN      | Possible | Counter-    |
|------------|---------------------|---------------|-------|---------|-------|--------|-------|-----------|----------|-------------|
|            |                     |               |       | YEAR    |       | TOTAL  | of    | Accidents |          | measure(s)  |
|            |                     |               | 2006  | 2007    | 2008  | CRASHE | Total | per Year  | Gause(s) | ineasure(s) |
|            | Total Sideswi       | pe Crashes    | 10    | 15      | 12    | 37     | 100%  | 12.33     | (17)     | 4           |
|            |                     | DayLight      | 8     | 14      | 10    | 32     | 86%   | 10.67     | (18)     | 19          |
|            | Lighting Conditions | Dawn          | 2     | 1       | 1     | 4      | 11%   | 1.33      | (20)     |             |
|            |                     | Dark          | 0     | 0       | 1     | 1      | 3%    | 0.33      | (21)     |             |
|            |                     | 00:00 - 06:00 | 0     | 0       | 0     | 0      | 0%    | 0.00      |          |             |
|            |                     | 06:00 - 09:00 | 3     | 3       | 1     | 7      | 19%   | 2.33      |          |             |
|            |                     | 09:00 - 11:00 | 0     | 0       | 1     | 1      | 3%    | 0.33      |          |             |
| Sideswipe  | Hours of Day        | 11:00 - 13:00 | 1     | 2       | 2     | 5      | 14%   | 1.67      |          |             |
| (Overtake) |                     | 13:00 - 15:00 | 1     | 2       | 3     | 6      | 16%   | 2.00      |          |             |
|            |                     | 15:00 - 18:00 | 3     | 6       | 3     | 12     | 32%   | 4.00      |          |             |
|            |                     | 18:00 - 24:00 | 2     | 2       | 2     | 6      | 16%   | 2.00      |          |             |
|            |                     | North         | 3     | 3       | 2     | 8      | 22%   | 2.67      |          |             |
|            |                     | South         | 2     | 2       | 3     | 7      | 19%   | 2.33      |          |             |
|            | Direction           | East          | 3     | 6       | 6     | 15     | 41%   | 5.00      |          |             |
|            |                     | West          | 2     | 4       | 1     | 7      | 19%   | 2.33      |          |             |
|            |                     | Unknown       | 0     | 0       | 0     | 0      | 0%    | 0.00      |          |             |

|              |                     |               | NUMBE | R OF CR | ASHES | 3 YEAR | %     | MEAN      | Dessible             | Ocumber                |
|--------------|---------------------|---------------|-------|---------|-------|--------|-------|-----------|----------------------|------------------------|
|              |                     |               |       | YEAR    |       | TOTAL  | of    | Accidents | Possible<br>Cause(s) | Counter-<br>measure(s) |
|              |                     |               | 2006  | 2007    | 2008  | CRASHE | Total | per Year  | Cause(s)             | measure(s)             |
|              | Total Fixed Ob      | ject Crashes  | 0     | 3       | 4     | 7      | 100%  | 2.33      | (2)                  | 5                      |
|              |                     | Day Light     | 0     | 1       | 2     | 3      | 43%   | 1.00      | (6)                  | 12                     |
|              | Lighting Conditions | Dawn          | 0     | 0       | 0     | 0      | 0%    | 0.00      | (17)                 |                        |
|              |                     | Dark          | 0     | 2       | 2     | 4      | 57%   | 1.33      |                      |                        |
|              |                     | 00:00 - 06:00 | 0     | 1       | 0     | 1      | 14%   | 0.33      |                      |                        |
|              |                     | 06:00 - 09:00 | 0     | 0       | 0     | 0      | 0%    | 0.00      |                      |                        |
|              |                     | 09:00 - 11:00 | 0     | 1       | 1     | 2      | 29%   | 0.67      |                      |                        |
| Fixed Object | Hours of Day        | 11:00 - 13:00 | 0     | 0       | 0     | 0      | 0%    | 0.00      |                      |                        |
| Tixed Object |                     | 13:00 - 15:00 | 0     | 0       | 1     | 1      | 14%   | 0.33      |                      |                        |
|              |                     | 15:00 - 18:00 | 0     | 1       | 0     | 1      | 14%   | 0.33      |                      |                        |
|              |                     | 18:00 - 24:00 | 0     | 0       | 2     | 2      | 29%   | 0.67      |                      |                        |
|              |                     | North Leg     | 0     | 0       | 1     | 1      | 14%   | 0.33      |                      |                        |
|              |                     | South Leg     | 0     | 0       | 1     | 1      | 14%   | 0.33      |                      |                        |
|              | Direction           | East Leg      | 0     | 1       | 1     | 2      | 29%   | 0.67      |                      |                        |
|              |                     | West Leg      | 0     | 2       | 1     | 3      | 43%   | 1.00      |                      |                        |
|              |                     | Unknown       | 0     | 0       | 0     | 0      | 0%    | 0.00      |                      |                        |



#### 3.4.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 117 Avenue and SW 104 Street were performed on a typical weekday on November 22, 2010. A summary of the traffic data is presented in *Figure 15*, and the field review is presented in *Figure 16*.

This intersection has double left-turn bays for all approaches, and the northbound approach has an exclusive right-turn lane. The signal operation is protected for all left-turn approaches.

Eastbound left-turn vehicles are spilled back at through lanes. Conflict was observed between northbound right-turns and eastbound thru movement. Also, stop bars are located too close to the crosswalks, and vehicles stop a few feet behind the stop bar to allow for the turning vehicles to safely maneuver the turn.

Vehicles exit the driveway in north leg cross the southbound five-lane approach to turn left heading northbound. Also, southbound vehicles drive over the marked median.

It was noticed that not all legs have crosswalks and no ADA compatible ramps are provided.

#### 3.4.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 117 Avenue and SW 104 Street, the following are recommended:

- Lengthen the eastbound double left-turn lanes to 350 ft each.
- Replacement of the north leg painted median with a raised curbed median.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Installing lane control (R3-8) signs for all approaches.
- Relocation of the stop bars to standard distances from crosswalks to allow for safe left-turns.
- Providing ADA approved pedestrian ramps at all corners.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 17.





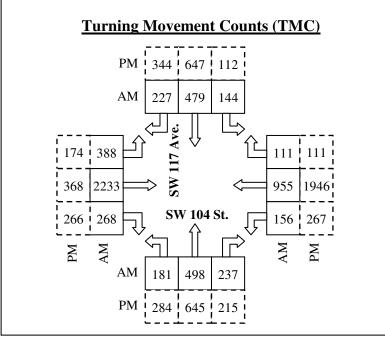


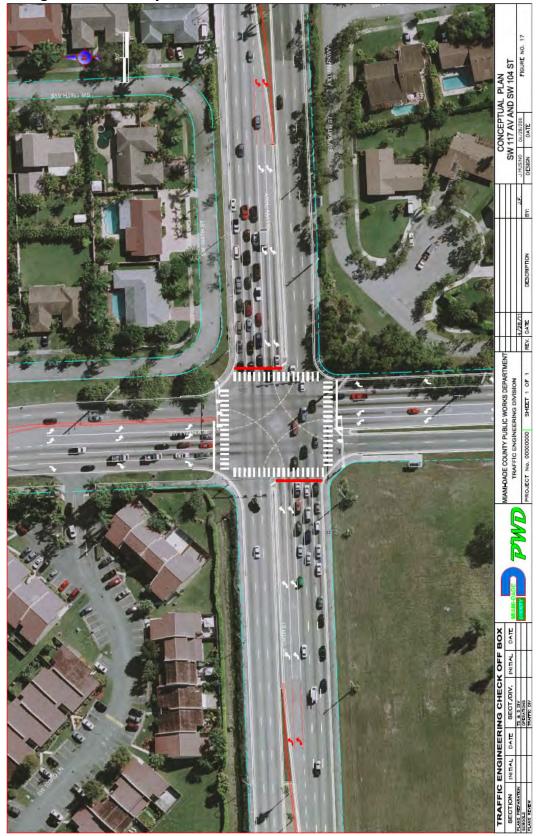






Figure 16: Field Review – SW 117 Avenue and SW 104 Street





# Figure 17: Conceptual Plan – SW 117 Avenue and SW 104 Street

Safety Studies at High Crash Locations Countywide



#### 3.5. SW 137 Avenue and SW 152 Street

#### 3.5.1. Site Description

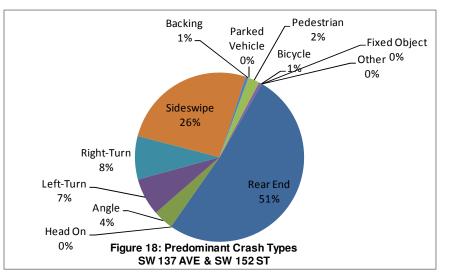
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 137 Avenue is a six lane urban arterial divided by a raised median that runs north-south, and SW 152 Street is a six lane urban arterial divided by a raised median that runs east-west.

#### 3.5.2. Safety Conditions and Analysis

The intersection of SW 137 Avenue and SW 152 Street is ranked number 5 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 181 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 60. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 18*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 14* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 2.015, 1.734, and 1.834, respectively. The safety ratio for the three years averaged 1.861. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that rear end, right-turn and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 15*.



|                                       |   | (6 Lane          | x 6 Lane.  | Signaliz                             | ed, With Tu                      | Irn Lanes.                      | 4 Leg Inters                              | ection -Table | e 36) - URBAN                        | V Spot                           |           |                              |               |
|---------------------------------------|---|------------------|------------|--------------------------------------|----------------------------------|---------------------------------|---|---------------|--------------------------------------|----------------------------------|-----------|------------------------------|---------------|
|                                       |   |                  | R OF CF    |                                      | 3 YEAR                           | %                               | MEAN                                      |               |                                      | ASH VALUE                        |           |                              |               |
|                                       | TYPE OF CRASH                           |                  | YEAR       |                                      | TOTAL                            | of                              | Accidents                                 | MEAN          | 90th                                 | 95th                             | Mean      | 90th                         | 95th          |
| COLLISION TYPE                        | Rear End                                | 2006<br>34       | 2007<br>33 | 2008<br>26                           | CRASHE<br>93                     | Total<br>26%                    | <b>per Year</b><br>31.00                  | 7.80          | Percentile<br>17.12                  | Percentile<br>18.90              | x         | Percentil<br>X               | Percenti<br>X |
|                                       | Head On                                 | 0                | 0          | 0                                    | 0                                | 0%                              | 0.00                                      | 0.31          | 0.91                                 | 1.03                             |           |                              |               |
|                                       | Angle                                   | 1                | 0          | 6                                    | 7                                | 2%                              | 2.33                                      | 4.11          | 8.06                                 | 8.82                             |           |                              |               |
|                                       | Left Turn                               | 8                | 2          | 3                                    | 13                               | 3%                              | 4.33                                      | 3.20          | 6.52                                 | 7.16                             | Х         |                              |               |
|                                       | Right Turn                              | 5                | 6          | 4                                    | 15                               | 3%                              | 5.00                                      | 0.87          | 1.88                                 | 2.07                             | X         | X                            | X             |
|                                       | Sideswipe<br>Backed Into                | 15               | 15<br>0    | 17<br>0                              | 47                               | 8%<br>0%                        | 15.67<br>0.33                             | 2.98<br>0.44  | 6.83<br>1.26                         | 7.57<br>1.42                     | Х         | X                            | X             |
|                                       | Coll. w/ Parked Car                     | 0                | 0          | 0                                    | 0                                | 0%                              | 0.00                                      | 0.09          | 0.41                                 | 0.48                             |           |                              |               |
|                                       | Coll. w/ Pedestrian                     | 1                | 0          | 3                                    | 4                                | 1%                              | 1.33                                      | 0.44          | 1.34                                 | 1.51                             | Х         |                              |               |
|                                       | Coll. w/ Bicycle                        | 0                | 0          | 1                                    | 1                                | 0%                              | 0.33                                      | 0.22          | 0.67                                 | 0.76                             | Х         |                              |               |
|                                       | Fixed Object                            | 0                | 0          | 0                                    | 0                                | 0%                              | 0.00                                      | 0.62          | 1.52                                 | 1.69                             |           |                              |               |
|                                       | Ran Off Road                            | 0                | 0          | 0                                    | 0                                | 0%                              | 0.00                                      | 0.00          | 0.00                                 | 0.00                             |           |                              |               |
|                                       | Overtuned                               | 0                | 0          | 0                                    | 0                                | 0%                              | 0.00                                      | 0.07          | 0.29                                 | 0.34                             |           |                              |               |
|                                       | Other<br>Total Crashes                  | 0<br>65          | 56         | 0<br>60                              | 0 181                            | 0%<br>23%                       | 0.00 60.33                                | 5.09<br>26.24 | 11.59<br>47.45                       | 12.84<br>51.51                   | х         | x                            | x             |
| SEVERITY                              | PDO crashes                             | 63               | 53         | 54                                   | 170                              | 94%                             | 56.67                                     | 14.33         | 26.64                                | 28.99                            | x         | x                            | Ŷ             |
|                                       | Fatal crashes                           | 0                | 0          | 0                                    | 0                                | 0%                              | 0.00                                      | 0.20          | 0.85                                 | 0.97                             |           | <u> </u>                     | <u> </u>      |
|                                       | Injury crashes                          | 2                | 3          | 6                                    | 11                               | 6%                              | 3.67                                      | 19.22         | 40.94                                | 45.10                            |           |                              |               |
| LIGHT CONDITIONS                      | Day Light                               | 49               | 44         | 47                                   | 140                              | 77%                             | 46.67                                     | 17.36         | 32.17                                | 35.01                            | Х         | Х                            | Х             |
|                                       | Dusk                                    | 0                | 0          | 1                                    | 1                                | 1%                              | 0.33                                      | 0.64          | 1.46                                 | 1.62                             | v         |                              |               |
|                                       | Dawn                                    | 16               | 0          | 1                                    | 17<br>23                         | 9%<br>13%                       | 5.67                                      | 0.18          | 0.59                                 | 0.66                             | x         | X                            | X             |
|                                       | Dark<br>Unknown                         | 0                | 12<br>0    | 11<br>0                              | 23                               | 0%                              | 7.67                                      | 7.36<br>0.09  | 15.05<br>0.47                        | 16.53<br>0.55                    | ^         |                              |               |
| SURFACE CONDITIONS                    |   | 36               | 53         | 57                                   | 146                              | 81%                             | 48.67                                     | 22.04         | 41.61                                | 45.35                            | x         | x                            | x             |
|                                       | Wet                                     | 3                | 2          | 3                                    | 8                                | 4%                              | 2.67                                      | 3.22          | 6.25                                 | 6.83                             |           |                              |               |
|                                       | Others                                  | 26               | 1          | 0                                    | 27                               | 15%                             | 9.00                                      | 0.36          | 0.96                                 | 1.07                             | Х         | Х                            | Х             |
| MONTH OF A YEAR                       | January                                 | 7                | 6          | 6                                    | 19                               | 10%                             | 6.33                                      | 2.49          | 4.66                                 | 5.08                             | Х         | X                            | X             |
|                                       | February                                | 5                | 3          | 6                                    | 14                               | 8%                              | 4.67                                      | 1.91          | 4.01                                 | 4.41                             | X         | X                            | X             |
|                                       | March<br>April                          | 8                | 5          | 6<br>6                               | 19<br>17                         | 10%<br>9%                       | 6.33<br>5.67                              | 2.33<br>1.89  | 5.43<br>4.46                         | 6.02<br>4.95                     | X         | X                            | X             |
|                                       | May                                     | 7                | 3          | 3                                    | 13                               | 3 %<br>7%                       | 4.33                                      | 2.16          | 4.40                                 | 4.90                             | x         | x                            | ^             |
|                                       | June                                    | 6                | 5          | 7                                    | 18                               | 10%                             | 6.00                                      | 1.93          | 4.00                                 | 4.39                             | X         | X                            | x             |
|                                       | July                                    | 5                | 3          | 4                                    | 12                               | 7%                              | 4.00                                      | 2.38          | 5.17                                 | 5.70                             | X         |                              |               |
|                                       | August                                  | 2                | 6          | 3                                    | 11                               | 6%                              | 3.67                                      | 2.51          | 4.97                                 | 5.44                             | Х         |                              |               |
|                                       | September                               | 6                | 4          | 6                                    | 16                               | 9%                              | 5.33                                      | 1.60          | 3.13                                 | 3.42                             | X         | X                            | X             |
|                                       | October                                 | 5                | 4          | 5                                    | 14                               | 8%                              | 4.67                                      | 2.13          | 4.00                                 | 4.35                             | X         | X                            | X             |
|                                       | November<br>December                    | 4<br>5           | 3          | 4                                    | 11<br>17                         | 6%<br>9%                        | 3.67<br>5.67                              | 1.98<br>2.31  | 4.35<br>4.78                         | 4.81.                            | X         | x                            | x             |
| DAY OF THE WEEK                       | Sunday                                  | 5<br>8           | 6          | 4                                    | 22                               | 9%<br>12%                       | 7.33                                      | 3.60          | 4.76                                 | 5.26<br>7.73                     | X         | x                            | ^             |
|                                       | Monday                                  | 13               | 8          | 9                                    | 30                               | 17%                             | 10.00                                     | 3.42          | 6.95                                 | 7.63                             | x         | x                            | x             |
|                                       | Tuesday                                 | 9                | 8          | 7                                    | 24                               | 13%                             | 8.00                                      | 3.71          | 6.93                                 | 7.54                             | x         | X                            | x             |
|                                       | Wednesday                               | 6                | 14         | 6                                    | 26                               | 14%                             | 8.67                                      | 4.02          | 7.66                                 | 8.35                             | Х         | х                            | х             |
|                                       | Thursday                                | 11               | 7          | 10                                   | 28                               | 15%                             | 9.33                                      | 4.36          | 8.22                                 | 8.97                             | Х         | Х                            | Х             |
|                                       | Friday                                  | 10               | 6          | 12                                   | 28                               | 15%                             | 9.33                                      | 4.16          | 8.40                                 | 9.21                             | X         | X                            | X             |
| HOUR OF THE DAY                       | Saturday                                | 8                | 7          | 8                                    | 23                               | 13%                             | 7.67                                      | 2.36          | 5.17                                 | 5.71                             | Х         | X                            | X             |
| NUUR OF THE DAT                       | 00:00-06:00<br>06:00-09:00              | 13               | 2          | 9                                    | 4<br>30                          | 2%<br>17%                       | 1.33<br>10.00                             | 2.20<br>3.64  | 4.63<br>7.22                         | 5.10<br>7.91                     | х         | x                            | x             |
|                                       | 09:00-11:00                             | 3                | 3          | 6                                    | 12                               | 7%                              | 4.00                                      | 2.04          | 4.45                                 | 4.91                             | x         | ~                            | ~             |
|                                       | 11:00-13:00                             | 4                | 6          | 3                                    | 13                               | 7%                              | 4.33                                      | 2.56          | 5.59                                 | 6.17                             | Х         |                              |               |
|                                       | 13:00-15:00                             | 15               | 8          | 7                                    | 30                               | 17%                             | 10.00                                     | 3.38          | 6.82                                 | 7.48                             | Х         | Х                            | Х             |
|                                       | 15:00-18:00                             | 16               | 14         | 16                                   | 46                               | 25%                             | 15.33                                     | 5.09          | 9.37                                 | 10.19                            | X         | X                            | X             |
|                                       | 18:00-24:00                             | 13               | 15         | 18                                   | 46                               | 25%                             | 15.33                                     | 6.71          | 13.41                                | 14.69                            | Х         | Х                            | X             |
|                                       |   |                  |            |                                      |                                  | YEAR                            |   | 3-Year        | 1                                    |                                  |           |                              |               |
|                                       |   |                  |            |                                      |                                  |                                 | <u>^</u>                                  |               |                                      |                                  |           |                              |               |
|                                       |   |                  |            |                                      | 1                                | 2                               | 3   | Average       | 4                                    |                                  |           |                              |               |
| Average Daily Traffic A               | DT (Vehicles per D                      | Day)             |            |                                      | 84,514                           | 86,239                          | 87,999                                    | 86,251        |                                      |                                  |           |                              |               |
| Iorida Average Crash                  | rate (Crashes per                       | Million En       | tering Ve  | hicles)                              | 0.579                            | 0.568                           | 0.566                                     | 0.571         | 1                                    |                                  |           |                              |               |
| Traffic Base                          |   |                  |            | ,                                    | 30.848                           | 31.477                          | 32.120                                    | 31.482        | 1                                    |                                  |           |                              |               |
|                                       |   |                  |            |                                      |                                  |                                 |   |               | 4                                    |                                  |           |                              |               |
| Actual Crash Rate (Cr                 | ashes per Million E                     | ntering V        | ehicles)   |                                      | 2.107                            | 1.779                           | 1.868                                     | 1.918         | 1                                    |                                  |           |                              |               |
| Critical Crash Rate (C                | rashes per Million E                    | Entering V       | ehicles)   |                                      | 1.046                            | 1.026                           | 1.018                                     | 1.030         | 1                                    |                                  |           |                              |               |
| Safety Ratio                          |   | -                |            |                                      | 2.015                            | 1.734                           | 1.834                                     | 1.861         | 1                                    |                                  |           |                              |               |
| · ·                                   | 22                                      |                  |            |                                      |                                  |                                 |   |               | 1                                    |                                  |           |                              |               |
| -                                     | Rate = $\frac{A \times 1,00}{V}$        | 0 ,000           |            |                                      |                                  | f crashes                       | or number o                               |               | type occurring                       | ng in a 1 year                   | period.   |                              |               |
| High Crash Location<br>Actual Crash I |   |                  | 2          | A = Tota<br>V = Ave<br><u>Where:</u> | YES<br>al number o<br>rage Annua | YES<br>f crashes<br>I Daily Tra | YES<br>or number o<br>affic X 365         | YES           |                                      | ng in a 1 year<br>ection or road |           | nt                           |               |
|                                       |   | ·                |            | TB = Tr<br>TF = Te                   | affic Base<br>st Factor (z       | -value)                         |   | el for RURAL  |                                      | Confidence I                     | Level (%) | Constant Z                   | ]             |
| Traffic Base =                        |   |                  |            |                                      | Level for URE                    |                                 | 86.60<br>90.00<br>95.00<br>95.50<br>98.80 | )<br>)<br>)   | 1.50<br>1.64<br>1.96<br>2.00<br>2.50 |                                  |           |                              |               |
| Safety Ratio                          | $= \frac{Actual Crash}{Critical Crash}$ | h Rate<br>h Rate | -          |                                      |                                  |                                 |   |               |                                      | 98.80<br>99.00<br>99.70<br>99.95 | )         | 2.50<br>2.58<br>3.00<br>3.29 |               |

# Table 14 – Crash Analysis – SW 137 Avenue and SW 152 Street



# Table 15 – Abnormal Crash Details & CountermeasuresSW 137 Avenue and SW 152 Street

| (6 Lane x 6 Lane, Signalized, With Turn Lanes, 4 Lag Intersection -Table 36) - URBAN Spot           NUMBER OF CRASHES<br>2005         3 YEAR<br>ToTAL<br>CRASHES<br>3         5<br>toTAL<br>CRASHES<br>3         Machine<br>Total<br>Crashes         Possible<br>Total<br>Accidents<br>Total<br>Dec.         Possible<br>Cause(s)<br>(c)         Counter-<br>total<br>(c)           NUMBER OF CRASHES<br>1006         3 YEAR<br>21         5<br>total<br>7         Machine<br>Accidents<br>Total<br>Dec.         Possible<br>Cause(s)<br>(c)         Counter-<br>total<br>(c)           NUMBER OF CRASHES<br>1007         3 20%<br>(c)         0   |            |                     | SW 1  | 37 Aven                                   | ue & S                               | W 152 S                                   | Street                                    |   |  |          |           |
|--|------------|---------------------|---|---|--------------------------------------|---|---|---|--|----------|-----------|
| Veral         of rati.  | ·          | (6 Lane x 6         |   |   |                                      |   |   | 36) - URB   | AN Spot  |          |           |
| Veral         of rati.  |            |                     |   | NUMBE                                     | B OF CB                              | ASHES                                     | 3 VEAR                                    | ⁰⁄_   | MEAN   |          | _         |
| Total Pear End Crashes         2006         2007         2008         CRASHES         Total         Pervan         Cause(s)         measure()           Lighting Condition         Bay/Light         24         29         21         74         00%         24.67         (1)         1         1         25         (3)         (2)  |            |                     |   |   |                                      |   |   |   |  |          |           |
| Total Rear End Crashes         34         33         26         39.00         100%         21.00         (1)         1           Lighting Conditions         Bay Lighting         24         29         21         74         80%         24.07         (1)         1         2           Lighting Conditions         Dark         10         4         5         19         20%         6.33         (1)         5         5         6         10         20%         6.33         (1)         5         5         6         10         20%         6.33         (1)         1         5         5         6         10         5         25         7         <  |            |                     |   | 2006                                      |                                      | 2008                                      | -   |   |  | Cause(s) | measure(s |
| North         8         9         21         74         80%         24.87         (a)         25         (b)         25         (c)         2         2         5         6         33         (c)         (c)         2         5         6         6         10         40         5         10         20%         6.33         (c)         (c)         6         6         10         20%         6.33         (c)         (c)         7         6         6         11         1         3         3         3%         10.75         (c)         8         9         9         25         75.97  |            | Total Rear Er       | nd Crashes  |   | 33                                   | 26  |   |   |  | (1)      | 1         |
| Lighting Conditions         Dawn         0   |            |                     |   |   |                                      |   |   |   |  |          |           |
| Dark         10         4         5         19         20%         6.33         (6)         6           0000-06:00         1         1         3%         1.00         3%         1.00         3%         1.00         1.00         1.00         1.00         1.00         1.00         3%         1.00         1.0   |            | Lighting Conditions |   |   |                                      |   |   |   |  | (4)      |           |
| Rear End         Hours of Day         B = 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0  |            | - · ·               | Dark  | 10  | 4                                    | 5   | 19  | 20%   | 6.33   |          | 6         |
| Rear End         Hours of Day         0900-11300         1         1         1         3         3%         1.00           1300-1500         5         6         4         15         16%         5.00           1300-1800         8         10         5         6         4         15         16%         5.00           1800-24.00         9         7         9         25         27%         8.33           North         8         5         4         10         22         27%         8.33           West         12         8         2         23         25%         7.67         7.67           West         12         8         2         23         25%         7.67         7.67           Unknown         0         0         0         0         7.07         1.6%         5.00         7.07         1.6%         5.00         7.07         1.06         7.07         1.06         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0         1.0  |            |                     |   |   |                                      |   |   |   |  | (8)      | 8         |
| Rear End         Hours of Day         1100-11300         2         3         0         5         5%         1.87           1500-1500         5         6         4         15         16%         5.00           1500-1830         8         10         5         23         25%         7.67           1500-1830         8         10         10         25         27%         8.33           North         8         5         4         17         18%         5.67           North         8         10         10         25         27%         8.33           West         12         3         2         23         25%         7.67           Unknown         0  |            |                     |   |   |                                      |   |   |   |  |          |           |
| North         1300-1500         5         6         4         15         16%         5.00<br>1500-1830           North         8         10         5         23         25%         7.077           Burd         South         8         10         10         28         30%         9.33           Direction         East         6         9         10         22         27%         8.33           West         12         9         2         2.33         25%         7.67           Unknown         0  |            | Hours of Day        |   |   |                                      |   |   |   |  |          |           |
| Isual intervention         Isual i  | Rear End   | Hours of Day        |   |   |                                      |   |   |   |  |          |           |
| Item         Item <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>   |            |                     |   |   |                                      |   |   |   |  |          |           |
| North         8         5         4         17         18%         5.67           Direction         East         6         9         10         228         30%         9.33           East         6         9         10         228         27%         8.33           Unknown         0         0         0         0         0         0         0         0         0           West         112         9         0   |            |                     |   |   |                                      |   |   |   |  |          |           |
| Direction         East         6         9         10         25         27%         8.33           Unknown         0 <td></td>  |            |                     |   |   |                                      |   |   |   |  |          |           |
| West         12         0         2         23         25%         767           Unknown         0   |            |                     | South   | 8   | 10                                   | 10  | 28  | 30%   | 9.33   |          |           |
| Image: Interview         Image: I   |            | Direction           |   |   |                                      |   |   |   |  |          |           |
| NUMBER OF CRASHES<br>VEAR         3 YEAR<br>TOTAL         %<br>of<br>Accidents<br>Drotal         Possible<br>Cause(s)         Counter-<br>measure(<br>Cause(s)           2006         2007         2008         CRASHES         3 YEAR<br>TOTAL         %<br>of<br>Accidents<br>Dref Year         Possible<br>Cause(s)         Counter-<br>measure(s)           Lighting Conditions         Davi<br>Dawn         0 <td></td>   |            |                     |   |   |                                      |   |   |   |  |          |           |
| VEAR         TOTAL         of Accidents<br>per Year         Counter-<br>Cause(s)         reasure(<br>Cause(s)           Total Right Turn Crashes         5         d         Cause(s)         reasure(<br>Cause(s)           Lighting Conditions         Day Light         5         d         100%         Solo         Cause(s)         reasure(cause(s)           Lighting Conditions         Day Light         5         d         100%         Solo         Cause(s)           Day Light         5         4         1         1         Cause(s)         6           Day Light         1         2         2         1         7%         1           More of the colspan="2">1000         2         2         1         1         2         1         1         1         1         1         1         1         1         1 <td></td> <td></td> <td>Unknown</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0%</td> <td>0.00</td> <td></td> <td></td>  |            |                     | Unknown   | 0   | 0                                    | 0   | 0   | 0%  | 0.00   |          |           |
| Total Right Turn Crashes         200s         2007         2008         4         15         101%         001         0er Year         A           Lighting Conditions         Dax(Light)         5         5         4         14         93%         4.67         (8)         5           Lighting Conditions         Dax(Light)         0         <   |            |                     |   | NUMBE                                     |                                      | ASHES                                     |   |   |  |          |           |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  |            |                     |   | 2006                                      | 2007                                 | 2008                                      |   | Total   |  | Cause(s) | measure(s |
| Number of Day         Day         0  |            | Total Right Tu      | urn Crashes   | 5   | 6                                    | 4   |   | 100%  |  | (2)      | 4         |
| NB         Dark         0         1         0         1         7%         0.33           Hours of Day         00:00 06:00         0 <td< td=""><td></td><td></td><td>Day Light</td><td>5</td><td>5</td><td>4</td><td></td><td>93%</td><td></td><td></td><td>5</td></td<>  |            |                     | Day Light   | 5   | 5                                    | 4   |   | 93%   |  |          | 5         |
| Number of Day $0000 - 06:00 \\ 06:00 - 09:00 \\ 00:00 - 01:00 \\ 00:00 -$ |            | Lighting Conditions |   |   | 0                                    |   |   |   |  | (9)      |           |
| Normal Problem $06:00 - 09:00 \\ 09:00 - 11:00 \\ 09:00 - 11:00 \\ 11:00 - 13:00 \\ 11:00 - 13:00 \\ 11:00 - 13:00 \\ 11:00 - 13:00 \\ 11:00 - 13:00 \\ 11:00 - 12:00 \\ 11:00 - 13:00 \\ 11:00 - 12:00 \\ 11:00 - 12:00 \\ 11:00 - 13:00 \\ 11:00 - 12:00 \\ 11:00$ |            |                     |   |   | 1                                    |   |   |   |  |          | 9         |
| Network         Number of Day $0 = 00 - 11 300$ 1         2         2         5         33%         1.67           11300 - 1500         2         2         0         4         27%         1.33           1500 - 18:00         1         0         2         3         20%         1.00           18:00 - 24:00         0         2         0         2         13%         0.67           NB EB         1         2         2         5         33%         1.67           NB EB         1         2         2         5         33%         1.67           NB EB         1         2         1         4         27%         1.33           Direction         SB WB         1         1         3         20%         1.00           EB SB         1         2         1         4         27%         1.33           Unknown         0 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>  |            |                     |   |   |                                      |   |   |   |  |          |           |
| Number         Hours of Day $1100 - 13300$ 1         2         2         5         33%         1.67 $1300 - 15300$ 2         2         0         4         27%         1.33 $1500 - 18300$ 1         0         2         3         20%         1.00 $1800 - 24300$ 0         2         0         2         13%         0.67 $WB \rightarrow NB$ 2         1         2         5         33%         1.67 $WB \rightarrow NB$ 2         1         1         3         20%         1.00 $BB \rightarrow WB$ 1         1         1         3         20%         1.00 $BB \rightarrow WB$ 1         2         1         4         27%         1.33           Unknown         0  |            |                     |   |   |                                      |   | -   |   |  |          |           |
| Night run         13:00 - 15:00         2         2         0         4         27%         1.33           15:00 - 18:00         1         0         2         3         20%         1.00           18:00 - 24:00         0         2         0         2         13%         0.67           NB $\rightarrow$ EB         1         2         2         5         33%         1.67           Direction         SB $\rightarrow$ WB         1         1         1         3         20%         1.00           B $\rightarrow$ SB         1         2         1         4         27%         1.33           Unknown         0         0         0         0         0         0         0           VEAR         TOTAL         CRASHES         TOTAL         Possible         Counter-result           2006         2007         208         CRASHES         Total         Der Year         Possible         Cause(s)         measure(s)           11ghting Conditions         Day Light         12         9         12         33         70%         11.00         (17)         8         19         21         19         21         10         10         1         2%   |            | Hours of Day        |   |   |                                      |   |   |   |  |          |           |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  | Right Turn | induite of Bay      |   |   |                                      |   |   |   |  |          |           |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  |            |                     | 15:00 - 18:00   | 1   |                                      | 2   |   | 20%   |  |          |           |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  |            |                     |   |   |                                      |   |   |   |  |          |           |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  |            |                     | $NB \rightarrow EB$   |   |                                      |   |   |   |  |          |           |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  |            | Direction           |   |   |                                      | -   | -   |   |  |          |           |
| Image: Number of crashes         Number of crashes <td></td> <td>Direction</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>  |            | Direction           |   |   |                                      |   |   |   |  |          |           |
| NUMBER OF CRASHES         3 YEAR<br>TOTAL         %<br>of<br>CRASHES         MEAN<br>Accidents<br>Der Year         Possible<br>Cause(s)         Counter-<br>measure(s)           2006         2007         2008         CRASHES         100%         15.67         (8)         4           Lighting Conditions         Day Light         12         9         12         33         70%         11.00         (17)         8           Lighting Conditions         Day Light         12         9         12         233         70%         11.00         (17)         8           Dark         3         6         3         12         26%         4.00         (19)         21           00:00 - 06:00         0         1         0         1         2%         0.33         (20)         (20)         21           00:00 - 06:00         0         1         0         1         2%         0.33         (20)         (20)         (20)         (21)         (21)         (21)         (21)         (21)         (22)         (21)         (22)         (21)         (22)         (21)         (21)         (22)         (21)         (21)         (21)         (21)         (21)         (21)         (21)         (21)  |            |                     |   |   |                                      |   |   |   |  |          |           |
| VEAR         TOTAL<br>2006         Counter-<br>measure()           Total         of<br>Day         Accidents<br>per Year         Possible<br>Cause(s)         Counter-<br>measure()           Image: Sideswipe Crashes         15         15         17         47         100%         15.67         (8)         4           Lighting Conditions         Day Light         12         9         12         33         70%         11.00         (17)         8           Dark         3         6         3         12         26%         4.00         (18)         19           Dark         3         6         3         12         26%         4.00         (19)         21           00:00 - 06:00         0         1         0         1         2%         0.33         (20) <td< td=""><td></td><td></td><td>Children</td><td>v</td><td>v</td><td>v</td><td>Ŭ</td><td>070</td><td>0.00</td><td></td><td></td></td<>   |            |                     | Children  | v   | v                                    | v   | Ŭ   | 070   | 0.00   |          |           |
| VEAR         TOTAL<br>2006         Counter-<br>measure()           Total         of<br>Day         Accidents<br>per Year         Possible<br>Cause(s)         Counter-<br>measure()           Image: Sideswipe Crashes         15         15         17         47         100%         15.67         (8)         4           Lighting Conditions         Day Light         12         9         12         33         70%         11.00         (17)         8           Dark         3         6         3         12         26%         4.00         (18)         19           Dark         3         6         3         12         26%         4.00         (19)         21           00:00 - 06:00         0         1         0         1         2%         0.33         (20) <td< td=""><td></td><td></td><td></td><td>NUMBE</td><td>R OF CR</td><td>ASHES</td><td>3 YEAR</td><td>%</td><td>MEAN</td><td>Destitut</td><td>Counts</td></td<>  |            |                     |   | NUMBE                                     | R OF CR                              | ASHES                                     | 3 YEAR                                    | %   | MEAN   | Destitut | Counts    |
| Sideswipe<br>(Overtake)         Total Sideswipe Crashes         15         15         17         47         100%         15.67         (8)         4           Lighting Conditions         Day Light         12         9         12         33         70%         11.00         (17)         8           Lighting Conditions         Dawn         0         0         2         2         4%         0.67         (18)         (19)         21           Measure(conditions         Dawn         0         0         2         2         4%         0.67         (18)         19         21         (17)         8         (19)         (19)         (19)         21         (20)         (20)         (19)         (21)         (20)         (20)         (20)         (20)         (20)         (20)         (20)         (20)         (20)         (20)         (21)         (20)         (21)         (21)         (20)         (20)         (21)         (20)         (21)         (21)         (21)         (20)         (21)         (21)         (21)         (21)         (21)         (21)         (21)         (21)         (21)         (21)         (21)         (21)         (21)         (21)         (21) <th></th>  |            |                     |   |   |                                      |   |   |   |  |          |           |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  |            |                     |   | 2006                                      |                                      | 2008                                      | -   |   |  | Cause(s) | measure(s |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   |            | Total Sideswi       | pe Crashes  | 15  | 15                                   | 17  |   |   |  | (8)      | 4         |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $  |            |                     |   | 12  |                                      | 12  | 33  | 70%   | 11.00  | (17)     |           |
| Sideswipe<br>(Overtake) $00:00 - 06:00$ 0         1         0         1         2%         0.33         (20)           Hours of Day $06:00 - 09:00$ 3         3         2         8         17%         2.67 $09:00 - 11:00$ 0         1         3         4         9%         1.33 $11:00 - 13:00$ 1         1         1         3         6%         1.00 $13:00 - 15:00$ 5         0         2         7         15%         2.33 $15:00 - 18:00$ 5         3         3         11         23%         3.67 $18:00 - 24:00$ 1         6         6         13         28%         4.33           Direction         South         5         5         5         5         5         5           West         1         1         1         3         6%         1.00   |            | Lighting Conditions |   |   |                                      |   |   |   |  |          |           |
| Sideswipe<br>(Overtake)         Hours of Day $06:00 - 09:00$ 3         3         2         8         17%         2.67           Hours of Day $09:00 - 11:00$ 0         1         3         4         9%         1.33 $11:00 - 13:00$ 1         1         1         3         6%         1.00 $13:00 - 15:00$ 5         0         2         7         15%         2.33 $15:00 - 18:00$ 5         3         3         11         23%         3.67 $18:00 - 24:00$ 1         6         6         13         28%         4.33           Direction         East         6         3         7         16         34%         5.33           West         1         1         1         3         6%         1.00  |            | 3 . 3               | Dark  | 3   |                                      |   |   |   |  |          | 21        |
| Sideswipe<br>(Overtake)         Hours of Day $09:00 - 11:00$ 0         1         3         4         9%         1.33           11:00 - 13:00         1         1         1         3         6%         1.00           13:00 - 15:00         5         0         2         7         15%         2.33           15:00 - 18:00         5         3         3         11         2.3%         3.67           18:00 - 24:00         1         6         6         13         28%         4.33           North         3         6         4         13         28%         4.33           South         5         5         5         15         32%         5.03           West         1         1         1         3         6%         1.00  |            | 3 - 3               |   |   |                                      |   |   |   |  |          | 1         |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $  |            |                     | 00:00 - 06:00   |   |                                      |   |   |   |  | (20)     |           |
| $ \begin{array}{c} \text{(Overtake)} \\ \hline \\ & 13:00 - 15:00 & 5 & 0 & 2 & 7 & 15\% & 2.33 \\ \hline 13:00 - 18:00 & 5 & 3 & 3 & 11 & 23\% & 3.67 \\ \hline 18:00 - 24:00 & 1 & 6 & 6 & 13 & 28\% & 4.33 \\ \hline \\ & 18:00 - 24:00 & 1 & 6 & 6 & 13 & 28\% & 4.33 \\ \hline \\ & \text{North} & 3 & 6 & 4 & 13 & 28\% & 4.33 \\ \hline \\ & \text{Direction} & \hline \\ & \text{East} & 6 & 3 & 7 & 16 & 34\% & 5.33 \\ \hline \\ & \text{West} & 1 & 1 & 1 & 3 & 6\% & 1.00 \\ \hline \end{array} $  |            |                     | 00:00 - 06:00<br>06:00 - 09:00  | 3   |                                      | 2   | 8   | 17%   | 2.67   | (20)     |           |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  | Sideswipe  |                     | 00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00   | 3<br>0                                    | 3<br>1                               | 2<br>3                                    | 8<br>4                                    | 17%<br>9%   | 2.67<br>1.33   | (20)     |           |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  |            |                     | 00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00  | 3<br>0<br>1                               | 3<br>1<br>1                          | 2<br>3<br>1                               | 8<br>4<br>3                               | 17%<br>9%<br>6%   | 2.67<br>1.33<br>1.00   | (20)     |           |
| South         5         5         15         32%         5.00           Direction         East         6         3         7         16         34%         5.33           West         1         1         1         3         6%         1.00  |            |                     | 00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00   | 3<br>0<br>1<br>5                          | 3<br>1<br>1<br>0                     | 2<br>3<br>1<br>2                          | 8<br>4<br>3<br>7                          | 17%<br>9%<br>6%<br>15%                                    | 2.67<br>1.33<br>1.00<br>2.33   | (20)     |           |
| Direction         East         6         3         7         16         34%         5.33           West         1         1         1         3         6%         1.00  |            |                     | 00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00  | 3<br>0<br>1<br>5<br>5                     | 3<br>1<br>1<br>0<br>3                | 2<br>3<br>1<br>2<br>3                     | 8<br>4<br>3<br>7<br>11                    | 17%<br>9%<br>6%<br>15%<br>23%                             | 2.67<br>1.33<br>1.00<br>2.33<br>3.67                                 | (20)     |           |
| West 1 1 1 3 6% 1.00   |            |                     | 00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00                           | 3<br>0<br>1<br>5<br>5<br>1                | 3<br>1<br>1<br>0<br>3<br>6           | 2<br>3<br>1<br>2<br>3<br>6                | 8<br>4<br>7<br>11<br>13<br>13             | 17%<br>9%<br>6%<br>15%<br>23%<br>28%<br>28%               | 2.67<br>1.33<br>1.00<br>2.33<br>3.67<br>4.33<br>4.33                 | (20)     |           |
|  |            | Hours of Day        | 00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South         | 3<br>0<br>1<br>5<br>5<br>1<br>3<br>5      | 3<br>1<br>0<br>3<br>6<br>6<br>5      | 2<br>3<br>1<br>2<br>3<br>6<br>4<br>5      | 8<br>4<br>7<br>11<br>13<br>13<br>15       | 17%<br>9%<br>6%<br>15%<br>23%<br>28%<br>28%<br>32%        | 2.67<br>1.33<br>1.00<br>2.33<br>3.67<br>4.33<br>4.33<br>5.00         | (20)     |           |
|  |            | Hours of Day        | 00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South<br>East | 3<br>0<br>1<br>5<br>5<br>1<br>3<br>5<br>6 | 3<br>1<br>0<br>3<br>6<br>6<br>5<br>3 | 2<br>3<br>1<br>2<br>3<br>6<br>4<br>5<br>7 | 8<br>4<br>7<br>11<br>13<br>13<br>15<br>16 | 17%<br>9%<br>6%<br>15%<br>23%<br>28%<br>28%<br>32%<br>34% | 2.67<br>1.33<br>1.00<br>2.33<br>3.67<br>4.33<br>4.33<br>5.00<br>5.33 | (20)     |           |

# 3.5.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 137 Avenue and SW 152 Street were performed on a typical weekday on November 19, 2010. A summary of the traffic data is presented in *Figure 19*, and field review is presented in *Figure 20*.



This intersection has double left-turn bays for all approaches, and the northbound, southbound and westbound approaches have exclusive right-turn lanes. The signal operation is protected for all left-turn approaches.

Northbound approach lanes at this intersection present two through lanes and an exclusive right-turn while three receiving lanes exist for the approach lanes. This geometric condition and the lack of channelization for the northbound right-turn lane facilitate that several vehicles use the right-turn lane to circumvent the northbound through traffic in the middle of intersection during the AM and PM peak periods.

This intersection provides an extra receiving lane that facilitates both southbound and westbound right-turn movements. These movements were observed delayed during the opposite left-turns or perpendicular through movements that could operate concurrently. This issue could be associated to the lack of adequate channelization and markings within the intersection.

Vehicles exiting the south leg and north leg driveways were observed creating potential conflicts with northbound/southbound traffic. Also, large westbound and southbound left-turn traffic volumes spill back and block the through traffic. Red light running was frequently observed at eastbound/northbound and westbound directions.

#### 3.5.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 137 Avenue and SW 152 Street, the following are recommended:

- Lengthen the westbound double left-turn lanes to 475 ft each.
- Lengthen the southbound double left-turn lanes to 300 ft each.
- Channelizing the westbound and southbound right-turn lanes for free flow operations.
- Extend the merge lane on the west leg receiving lanes to provide right-turn lane to the shopping plaza.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours. Also, coordinating with the downstream signal at the entrance of the shopping plaza (ID# 6155).
- Installing lane control (R3-8) signs for all approaches.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 21.

#### Traffic Engineering Division

MIAMIDADE

#### 24-hr Approach Counts



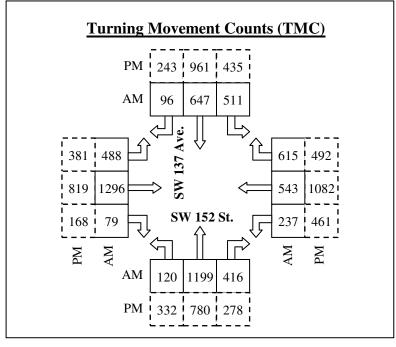


Figure 19: Traffic Data – SW 137 Avenue and SW 152 Street



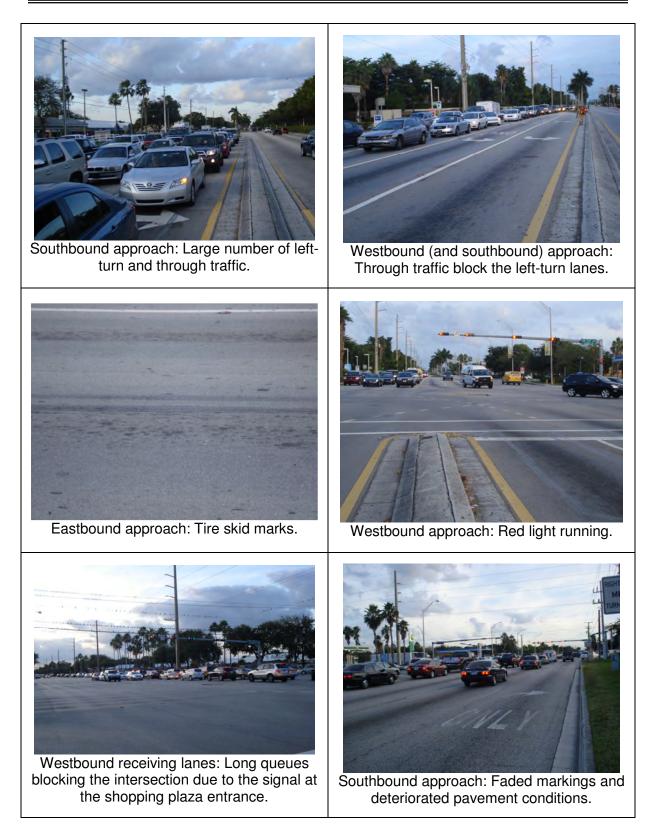
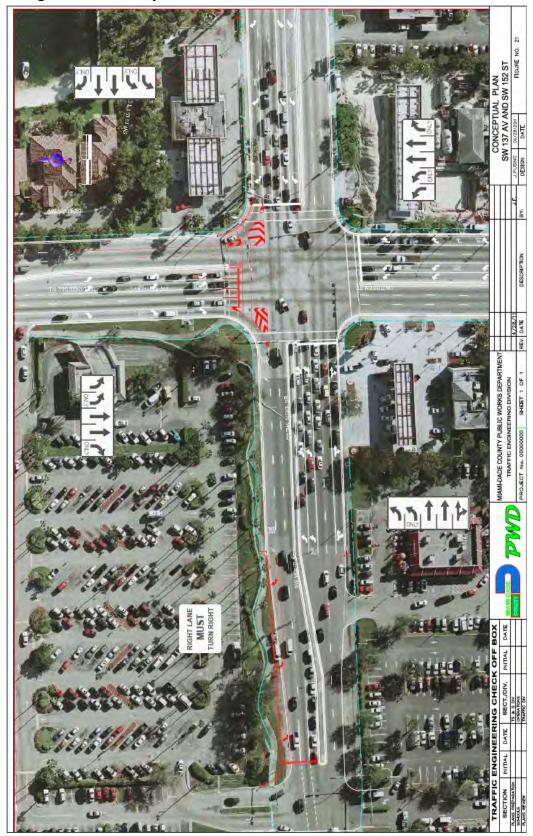


Figure 20: Field Review – SW 137 Avenue and SW 152 Street





# Figure 21: Conceptual Plan – SW 137 Avenue and SW 152 Street



### 3.6. NW 107 Avenue and NW 12 Street

#### 3.6.1. Site Description

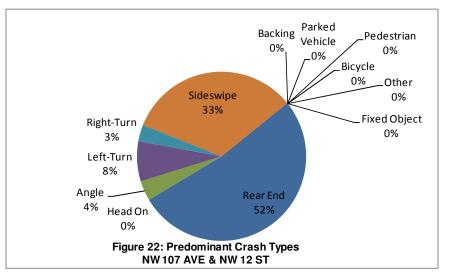
This intersection is a signalized four legged intersection located in the northwest part of unincorporated Miami Dade County with one corner in the City of Doral. NW 107 Avenue is a six lane urban arterial divided by a raised median that runs north-south, and NW 12 Street is a six lane major collector divided by a raised median that runs east-west.

#### 3.6.2. Safety Conditions and Analysis

The intersection of NW 107 Avenue and NW 12 Street is ranked number 6 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period 157 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 52. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 22*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 16* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.527, 2.097, and 1.349, respectively. The safety ratio for the three years averaged 1.658. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that rear end and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 17*.



|                         |  | (6                        | v 6                      |         |                           |                  | & NW 12 S                     |               |                    | l Coot                          |           |                            |                  |
|-------------------------|--|---------------------------|--------------------------|---------|---------------------------|------------------|-------------------------------|---------------|--------------------|---------------------------------|-----------|----------------------------|------------------|
|                         |  |                           |                          |         |                           |                  |                               |               | e 36) - URBAN      |                                 |           |                            | ODACUE           |
|                         | TYPE OF CRASH                                  | 2006                      | TR OF CF<br>YEAR<br>2007 | 2008    | 3 YEAR<br>TOTAL<br>CRASHE | %<br>of<br>Total | MEAN<br>Accidents<br>per Year | MEAN          | 90th<br>Percentile | ASH VALUE<br>95th<br>Percentile | Mean      | 90th                       | 95th<br>Percenti |
| COLLISION TYPE          | Rear End                                       | 2000                      | 35                       | 2000    | 82                        | 26%              | 27.33                         | 7.80          | 17.12              | 18.90                           | х         | X                          | X                |
|                         | Head On  | 0                         | 0                        | 0       | 0                         | 0%               | 0.00                          | 0.31          | 0.91               | 1.03                            |           |                            |                  |
|                         | Angle  | 2                         | 1                        | 3       | 6                         | 2%               | 2.00                          | 4.11          | 8.06               | 8.82                            |           |                            |                  |
|                         | Left Turn                                      | 2                         | 4                        | 6       | 12                        | 3%               | 4.00                          | 3.20          | 6.52               | 7.16                            | х         |                            |                  |
|                         | Right Turn                                     | 0                         | 2                        | 3       | 5                         | 1%               | 1.67                          | 0.87          | 1.88               | 2.07                            | X         |                            |                  |
|                         | Sideswipe                                      | 17                        | 24                       | 11      | 52                        | 11%              | 17.33                         | 2.98          | 6.83               | 7.57                            | X         | X                          | X                |
|                         | Backed Into<br>Coll. w/ Parked Car             | 0                         | 0                        | 0       | 0                         | 0%<br>0%         | 0.00                          | 0.44 0.09     | 1.26<br>0.41       | 1.42<br>0.48                    |           |                            |                  |
|                         | Coll. w/ Pedestrian                            | 0                         | 0                        | 0       | 0                         | 0%               | 0.00                          | 0.44          | 1.34               | 1.51                            |           |                            |                  |
|                         | Coll. w/ Bicycle                               | 0                         | 0                        | 0       | 0                         | 0%               | 0.00                          | 0.22          | 0.67               | 0.76                            |           |                            |                  |
|                         | Fixed Object                                   | 0                         | 0                        | 0       | 0                         | 0%               | 0.00                          | 0.62          | 1.52               | 1.69                            |           |                            |                  |
|                         | Ran Off Road                                   | 0                         | 0                        | 0       | 0                         | 0%               | 0.00                          | 0.00          | 0.00               | 0.00                            |           |                            |                  |
|                         | Overtuned                                      | 0                         | 0                        | 0       | 0                         | 0%               | 0.00                          | 0.07          | 0.29               | 0.34                            |           |                            |                  |
|                         | Other  | 0                         | 0                        | 0       | 0                         | 0%               | 0.00                          | 5.09          | 11.59              | 12.84                           |           |                            |                  |
|                         | Total Crashes                                  | 48                        | 66                       | 43      | 157                       | 24%              | 52.33                         | 26.24         | 47.45              | 51.51                           | X         | X                          | X                |
| SEVERITY                | PDO crashes                                    | 47                        | 61                       | 39      | 147                       | 94%              | 49.00                         | 14.33         | 26.64              | 28.99                           | X         | X                          | X                |
|                         | Fatal crashes<br>Injury crashes                | 0                         | 0<br>5                   | 0       | 0                         | 0%<br>6%         | 0.00                          | 0.20          | 0.85               | 0.97<br>45.10                   |           | <u> </u>                   | <u> </u>         |
| LIGHT CONDITIONS        | Day Light                                      | 37                        | 48                       | 33      | 118                       | 75%              | 39.33                         | 19.22         | 32.17              | 35.01                           | х         | x                          | x                |
|                         | Dusk   | 1                         | 4                        | 0       | 5                         | 3%               | 1.67                          | 0.64          | 1.46               | 1.62                            | X         | X                          | x                |
|                         | Dawn   | 0                         | 0                        | 2       | 2                         | 1%               | 0.67                          | 0.18          | 0.59               | 0.66                            | X         | X                          | X                |
|                         | Dark   | 10                        | 14                       | 8       | 32                        | 20%              | 10.67                         | 7.36          | 15.05              | 16.53                           | Х         |                            |                  |
|                         | Unknown  | 0                         | 0                        | 0       | 0                         | 0%               | 0.00                          | 0.09          | 0.47               | 0.55                            |           |                            |                  |
| SURFACE CONDITIONS      | Dry  | 38                        | 52                       | 31      | 121                       | 77%              | 40.33                         | 22.04         | 41.61              | 45.35                           | X         | <u> </u>                   | <u> </u>         |
|                         | Wet  | 4                         | 10                       | 7       | 21                        | 13%              | 7.00                          | 3.22          | 6.25               | 6.83                            | X         | X                          | X                |
| MONTH OF A YEAR         | Others   | 6 3                       | 4                        | 5       | 15                        | 10%<br>4%        | 5.00<br>2.00                  | 0.36 2.49     | 0.96               | 1.07                            | X         | X                          | X                |
| MONTH OF A TEAK         | January<br>February                            | 3<br>5                    | 2                        | 1       | 6<br>12                   | 4%<br>8%         | 2.00                          | 2.49          | 4.66               | 5.08<br>4.41                    | x         | <u> </u>                   | <u> </u>         |
|                         | March  | 6                         | 8                        | 1       | 12                        | 10%              | 5.00                          | 2.33          | 5.43               | 6.02                            | x         |                            | <u> </u>         |
|                         | April  | 6                         | 4                        | 4       | 14                        | 9%               | 4.67                          | 1.89          | 4.46               | 4.95                            | X         | X                          |                  |
|                         | May  | 1                         | 7                        | 5       | 13                        | 8%               | 4.33                          | 2.16          | 4.04               | 4.40                            | Х         | Х                          |                  |
|                         | June   | 3                         | 6                        | 1       | 10                        | 6%               | 3.33                          | 1.93          | 4.00               | 4.39                            | Х         |                            |                  |
|                         | July   | 5                         | 2                        | 3       | 10                        | 6%               | 3.33                          | 2.38          | 5.17               | 5.70                            | X         |                            |                  |
|                         | August   | 7                         | 11                       | 5       | 23                        | 15%              | 7.67                          | 2.51          | 4.97               | 5.44                            | X         | X                          | X                |
|                         | September                                      | 4                         | 5                        | 2       | 11                        | 7%               | 3.67                          | 1.60          | 3.13               | 3.42                            | X         | X                          | X                |
|                         | October<br>November                            | 3                         | 8                        | 4       | 15<br>12                  | 10%<br>8%        | 5.00<br>4.00                  | 2.13<br>1.98  | 4.00<br>4.35       | 4.35<br>4.81.                   | X<br>X    | X                          | X                |
|                         | December                                       | 2                         | 3                        | 6       | 12                        | 8%               | 4.00                          | 2.31          | 4.35               | 4.81.                           | X         | x                          | x                |
| DAY OF THE WEEK         | Sunday   | 5                         | 4                        | 3       | 10                        | 8%               | 4.00                          | 3.60          | 7.06               | 7.73                            | x         | <u> </u>                   | ⊢ ^              |
|                         | Monday   | 5                         | 10                       | 4       | 19                        | 12%              | 6.33                          | 3.42          | 6.95               | 7.63                            | x         |                            |                  |
|                         | Tuesday  | 9                         | 11                       | 8       | 28                        | 18%              | 9.33                          | 3.71          | 6.93               | 7.54                            | Х         | х                          | х                |
|                         | Wednesday                                      | 6                         | 7                        | 6       | 19                        | 12%              | 6.33                          | 4.02          | 7.66               | 8.35                            | Х         |                            |                  |
|                         | Thursday                                       | 10                        | 12                       | 2       | 24                        | 15%              | 8.00                          | 4.36          | 8.22               | 8.97                            | X         |                            |                  |
|                         | Friday   | 8                         | 7                        | 7       | 22<br>32                  | 14%<br>21%       | 7.33                          | 4.16          | 8.40               | 9.21                            | X<br>X    | x                          | <b>⊢</b>         |
| HOUR OF THE DAY         | Saturday<br>00:00-06:00                        | 5<br>2                    | 14<br>2                  | 13<br>1 | 32                        | 3%               | 10.67<br>1.67                 | 2.36<br>2.20  | 5.17<br>4.63       | 5.71<br>5.10                    | X         | X                          | Х                |
| HOUR OF THE DAT         | 06:00-09:00                                    | 2                         | 6                        | 4       | 12                        | 8%               | 4.00                          | 3.64          | 7.22               | 7.91                            | х         |                            |                  |
|                         | 09:00-11:00                                    | 1                         | 6                        | 3       | 10                        | 6%               | 3.33                          | 2.04          | 4.45               | 4.91                            | x         |                            |                  |
|                         | 11:00-13:00                                    | 8                         | 10                       | 6       | 24                        | 15%              | 8.00                          | 2.56          | 5.59               | 6.17                            | Х         | Х                          | Х                |
|                         | 13:00-15:00                                    | 7                         | 7                        | 5       | 19                        | 12%              | 6.33                          | 3.38          | 6.82               | 7.48                            | Х         |                            |                  |
|                         | 15:00-18:00                                    | 14                        | 15                       | 14      | 43                        | 27%              | 14.33                         | 5.09          | 9.37               | 10.19                           | X         | X                          | X                |
|                         | 18:00-24:00                                    | 14                        | 20                       | 10      | 44                        | 28%              | 14.67                         | 6.71          | 13.41              | 14.69                           | Х         | Х                          |                  |
|                         |  |                           |                          |         |                           | YEAR             |                               | 3-Year        | 1                  |                                 |           |                            |                  |
|                         |  |                           |                          |         |                           |                  | <u> </u>                      |               | 1                  |                                 |           |                            |                  |
|                         |  |                           |                          |         | 1                         | 2                | 3                             | Average       | -                  |                                 |           |                            |                  |
| Average Daily Traffic A | DT (Vehicles per D                             | Day)                      |                          |         | 81,719                    | 83,387           | 85,089                        | 83,399        |                    |                                 |           |                            |                  |
| Iorida Average Crash    | rate (Crashes per                              | Million En                | tering Ve                | hicles) | 0.579                     | 0.568            | 0.566                         | 0.571         | 1                  |                                 |           |                            |                  |
| Traffic Base            |  |                           |                          | ,       | 29.828                    | 30.436           | 31.057                        | 30.440        | 1                  |                                 |           |                            |                  |
|                         |  |                           |                          |         |                           |                  |                               |               | 4                  |                                 |           |                            |                  |
| Actual Crash Rate (Cr   | ashes per Million E                            | ntering V                 | enicles)                 |         | 1.609                     | 2.168            | 1.385                         | 1.721         | 1                  |                                 |           |                            |                  |
| Critical Crash Rate (C  | rashes per Million E                           | ntering V                 | (ehicles)                |         | 1.054                     | 1.034            | 1.026                         | 1.038         | 1                  |                                 |           |                            |                  |
| Safety Ratio            |  | -                         | ,                        |         | 1.527                     | 2.097            | 1.349                         | 1.658         | 1                  |                                 |           |                            |                  |
| High Crash Location     | 22   |                           |                          |         | YES                       | YES              | YES                           | YES           | 1                  |                                 |           |                            |                  |
|                         |  | 0 000                     |                          | Where:  | 123                       | 123              | 123                           | 123           | J                  |                                 |           |                            |                  |
| Actual Crash I          | $Rate = \frac{A \times 1,00}{V}$               | 0,000                     |                          |         | al number o<br>rage Annua |                  |                               | f crashes by  | type occurri       | ng in a 1 year                  | period.   |                            |                  |
| CriticalCrashRa         | $ate = AVR + \frac{0.5}{TB} + 2$               | $TF\sqrt{\frac{AVH}{TB}}$ | 2                        |         | Average Sta<br>affic Base | atewide Cr       | ash Rate for                  | a particular  | type of interse    | ection or road                  | way segme | nt.                        |                  |
|                         | Years × ADT > 2                                | 55                        |                          | TF = Te | st Factor (z              |                  | nfidence Lev                  | el for RURAL  | areas)             | Confidence 1<br>68.3<br>86.6    | 0         | Constant Z<br>1.00<br>1.50 | -                |
| Traffic Base = -        | $\frac{Years \times ADT \times 30}{1,000,000}$ |                           |                          | = 3.    | 29 (assume                | 99.95%           | Confidence                    | Level for URE | 3AN areas)         | 90.0<br>95.0<br>95.5            | 0<br>0    | 1.64<br>1.96<br>2.00       |                  |
| Safety Ratio =          | $= \frac{Actual Crash}{Critical Crash}$        | n Rate                    | -                        |         |                           |                  |                               |               |                    | 98.8<br>99.0<br>99.7            | 0<br>0    | 2.50<br>2.58<br>3.00       |                  |

# Table 16 – Crash Analysis – NW 107 Avenue and NW 12 Street



#### Table 17 – Abnormal Crash Details & Countermeasures NW 107 Avenue and NW 12 Street

|                                  |                     | NW ·  | 107 Aven  | ue & N   | W 12 S   | treet   |  |  |              |            |
|----------------------------------|---------------------|---|---|--|--|---|--|--|--------------|------------|
|                                  | (6 Lane x 6 L       | ane, Signalized, V  | Vith Turn La  | anes, 4 Le                                     | eg Interse                                     | ction -Table  | e 36) - URI  | BAN Spot   |              |            |
|                                  |                     |   | NUMBE   | R OF CF<br>YEAR                                | ASHES  | 3 YEAR<br>TOTAL                                     | %<br>of  | MEAN<br>Accidents  | Possible     | Counter-   |
|                                  |                     |   | 2006  | 2007   | 2008   | CRASHE  | Total  | per Year   | Cause(s)     | measure(s) |
|                                  | Total Rear Er       | nd Crashes  | 27  | 35   | 20   | 82  | 100%   | 27.33  | (1)          | 1          |
|                                  |                     | Day Light   | 23  | 24   | 17   | 64  | 78%  | 21.33  | (2)          | 2          |
|                                  | Lighting Conditions | Dawn  | 0   | 3  | 1  | 4   | 5%   | 1.33   | (4)          | 4          |
|                                  |                     | Dark  | 4   | 8  | 2  | 14  | 17%  | 4.67   | (5)          | 6          |
|                                  |                     | 00:00 - 06:00   | 1   | 1  | 0  | 2   | 2%   | 0.67   | (8)          |            |
|                                  |                     | 06:00 - 09:00   | 2   | 6  | 2  | 10  | 12%  | 3.33   |              |            |
|                                  |                     | 09:00 - 11:00   | 0   | 2  | 2  | 4   | 5%   | 1.33   |              |            |
| Rear End                         | Hours of Day        | 11:00 - 13:00   | 6   | 6  | 2  | 14  | 17%  | 4.67   |              |            |
| near chu                         |                     | 13:00 - 15:00   | 4   | 1  | 3  | 8   | 10%  | 2.67   |              |            |
|                                  |                     | 15:00 - 18:00   | 6   | 6  | 7  | 19  | 23%  | 6.33   |              |            |
|                                  |                     | 18:00 - 24:00   | 8   | 13   | 4  | 25  | 30%  | 8.33   |              |            |
|                                  |                     | North   | 11  | 11   | 5  | 27  | 33%  | 9.00   |              |            |
|                                  |                     | South   | 3   | 7  | 3  | 13  | 16%  | 4.33   |              |            |
|                                  | Direction           | East  | 6   | 11   | 9  | 26  | 32%  | 8.67   |              |            |
|                                  |                     | West  | 7   | 6  | 3  | 16  | 20%  | 5.33   |              |            |
|                                  |                     | Unknown   | 0   | 0  | 0  | 0   | 0%   | 0.00   |              |            |
|                                  |                     |   |   |  |  |   |  |  |              |            |
|                                  |                     |   | NUMBE   | R OF CF  | ASHES  | 3 YEAR  | %  | MEAN   |              |            |
|                                  |                     |   | NOWIDE  | YEAR   | AOHEO  | TOTAL   | of   | Accidents  | Possible     | Counter-   |
|                                  |                     |   | 2006  | 2007   | 2008   | CRASHE  | Total  | per Year   | Cause(s)     | measure(s) |
|                                  | Total Sideswi       | pe Crashes  | 17  | 24   | 11   | 52  | 100%   | 17.33  | (16)         | 4          |
|                                  |                     | Day Light   | 12  | 20   | 8  | 40  | 77%  | 13.33  | (17)         | 19         |
|                                  | Lighting Conditions | , ,   |   |  |  |   |  |  |              |            |
|                                  |                     | Dawn  | 1   | 0  | 0  | -   | 2%   |  | ,            | _          |
|                                  | Lighting Conditions | Dawn<br>Dark  | 1 4   | 0  | 0  | 1   | 2%<br>21%  | 0.33   | (18)         | 21         |
|                                  |                     | Dark  | 4   | 4  | 3  | 1<br>11   | 21%  | 0.33<br>3.67   | (18)<br>(19) | _          |
|                                  |                     | Dark<br>00:00 - 06:00   | 4   | 4<br>0   | 3<br>0   | 1<br>11<br>1  | 21%<br>2%  | 0.33<br>3.67<br>0.33   | (18)         | 21         |
|                                  |                     | Dark<br>00:00 - 06:00<br>06:00 - 09:00  | 4<br>1<br>1   | 4<br>0<br>1                                    | 3<br>0<br>0                                    | 1<br>11<br>1<br>2                                   | 21%<br>2%<br>4%  | 0.33<br>3.67<br>0.33<br>0.67   | (18)<br>(19) | 21         |
| Sideswipe                        |                     | Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00   | 4<br>1<br>1<br>0                                    | 4<br>0<br>1<br>3                               | 3<br>0<br>0<br>1                               | 1<br>11<br>1<br>2<br>4                              | 21%<br>2%<br>4%<br>8%  | 0.33<br>3.67<br>0.33<br>0.67<br>1.33   | (18)<br>(19) | 21         |
| Sideswipe<br>(Overtake)          | Hours of Day        | Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00  | 4<br>1<br>1<br>0<br>2                               | 4<br>0<br>1                                    | 3<br>0<br>0                                    | 1<br>11<br>1<br>2<br>4<br>7                         | 21%<br>2%<br>4%<br>8%<br>13%                                     | 0.33<br>3.67<br>0.33<br>0.67<br>1.33<br>2.33   | (18)<br>(19) | 21         |
| Side <i>s</i> wipe<br>(Overtake) |                     | Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00   | 4<br>1<br>1<br>0                                    | 4<br>0<br>1<br>3<br>2                          | 3<br>0<br>0<br>1<br>3                          | 1<br>11<br>1<br>2<br>4                              | 21%<br>2%<br>4%<br>8%  | 0.33<br>3.67<br>0.33<br>0.67<br>1.33   | (18)<br>(19) | 21         |
|                                  |                     | Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00   | 4<br>1<br>1<br>0<br>2<br>3                          | 4<br>0<br>1<br>3<br>2<br>4                     | 3<br>0<br>0<br>1<br>3<br>0                     | 1<br>11<br>2<br>4<br>7<br>7                         | 21%<br>2%<br>4%<br>8%<br>13%<br>13%                              | 0.33<br>3.67<br>0.33<br>0.67<br>1.33<br>2.33<br>2.33                                 | (18)<br>(19) | 21         |
|                                  |                     | Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00                                    | 4<br>1<br>1<br>0<br>2<br>3<br>7                     | 4<br>0<br>1<br>3<br>2<br>4<br>8                | 3<br>0<br>0<br>1<br>3<br>0<br>3                | 1<br>11<br>2<br>4<br>7<br>7<br>18                   | 21%<br>2%<br>4%<br>8%<br>13%<br>13%<br>35%                       | 0.33<br>3.67<br>0.33<br>0.67<br>1.33<br>2.33<br>2.33<br>2.33<br>6.00                 | (18)<br>(19) | 21         |
|                                  |                     | Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00                   | 4<br>1<br>1<br>0<br>2<br>3<br>7<br>3<br>3           | 4<br>0<br>1<br>3<br>2<br>4<br>8<br>6           | 3<br>0<br>0<br>1<br>3<br>0<br>3<br>4           | 1<br>11<br>2<br>4<br>7<br>7<br>7<br>18<br>13        | 21%<br>2%<br>4%<br>13%<br>13%<br>35%<br>25%                      | 0.33<br>3.67<br>0.33<br>0.67<br>1.33<br>2.33<br>2.33<br>6.00<br>4.33                 | (18)<br>(19) | 21         |
|                                  |                     | Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North          | 4<br>1<br>0<br>2<br>3<br>7<br>3<br>7<br>3<br>7      | 4<br>0<br>1<br>3<br>2<br>4<br>8<br>6<br>4      | 3<br>0<br>0<br>1<br>3<br>0<br>3<br>4<br>2      | 1<br>11<br>2<br>4<br>7<br>7<br>18<br>13<br>13       | 21%<br>2%<br>4%<br>13%<br>13%<br>35%<br>25%<br>25%               | 0.33<br>3.67<br>0.33<br>0.67<br>1.33<br>2.33<br>2.33<br>6.00<br>4.33<br>4.33         | (18)<br>(19) | 21         |
|                                  | Hours of Day        | Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South | 4<br>1<br>0<br>2<br>3<br>7<br>3<br>7<br>3<br>7<br>6 | 4<br>0<br>1<br>3<br>2<br>4<br>8<br>6<br>4<br>4 | 3<br>0<br>0<br>1<br>3<br>0<br>3<br>4<br>2<br>4 | 1<br>11<br>2<br>4<br>7<br>7<br>18<br>13<br>13<br>13 | 21%<br>2%<br>4%<br>13%<br>13%<br>35%<br>25%<br>25%<br>25%<br>27% | 0.33<br>3.67<br>0.33<br>0.67<br>1.33<br>2.33<br>2.33<br>6.00<br>4.33<br>4.33<br>4.67 | (18)<br>(19) | 21         |

#### 3.6.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at NW 107 Avenue and NW 12 Street were performed on a typical weekday on October 28, 2010. A summary of the traffic data is presented in *Figure 23*, and the field review is presented in *Figure 24*.

This intersection has double left-turn bays for all approaches, and the northbound, southbound and eastbound approaches have exclusive right-turn lanes. The signal operation is protected for all left-turn approaches.

Long queues were observed for northbound left-turn with vehicles spilling back and blocking the through lane. Also, northbound vehicles were observed weaving.



Several eastbound vehicles were observed weaving and overtaking the right-of-way from the outside lane that becomes a right turn only to the inside through lanes, bypassing the long queue. Also, weaving was observed for westbound traffic.

Several conflicts were observed between the eastbound right turns and traffic along the auxiliary lane for the SR-836/Dolphin Expressway on-ramp during the PM peak. Also, several conflicts between eastbound right turns and southbound through traffic

It was observed that multiple vehicles weaving south of the intersection use to bypass southbound queues from the auxiliary lane for the SR-836/Dolphin Expressway on-ramp along NW 107 Avenue.

It was noticed that no intersection lane control signs were provided for southbound and eastbound traffic. Also, red light running was observed at the intersection.

#### 3.6.4. Recommendation

Based on the safety analysis, field observations and traffic operations for the intersection of NW 107 Avenue and NW 12 Street, the following are recommended:

- Lengthen the northbound double left-turn lanes to 250 ft. each.
- Lengthen the eastbound double left-turn lanes to 300 ft. each.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Installing lane control (R3-8) signs for all approaches.
- Installing additional post mounted No U-Turn (R3-4) signs for all approaches.
- Providing ADA approved pedestrian ramps at all corners.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 25.





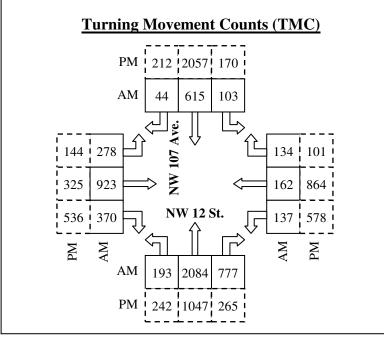


Figure 23: Traffic Data – NW 107 Avenue and NW 12 Street



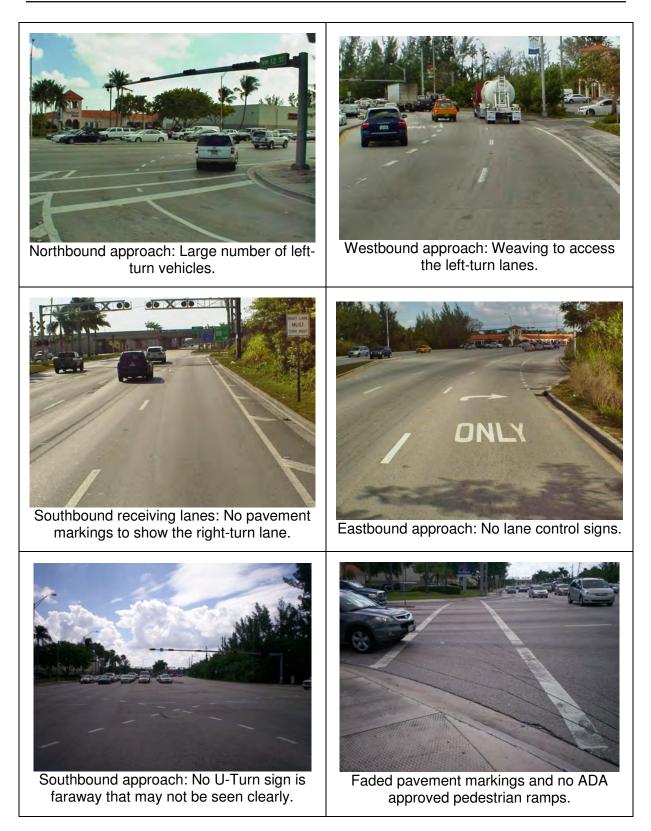


Figure 24: Field Review – NW 107 Avenue and NW 12 Street



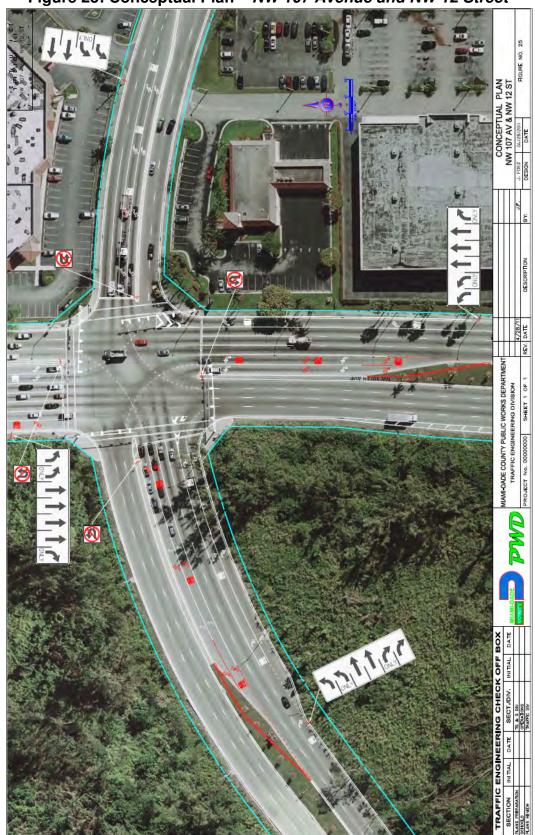


Figure 25: Conceptual Plan – NW 107 Avenue and NW 12 Street



#### 3.7. SW 152 Avenue and SW 72 Street

#### 3.7.1. Site Description

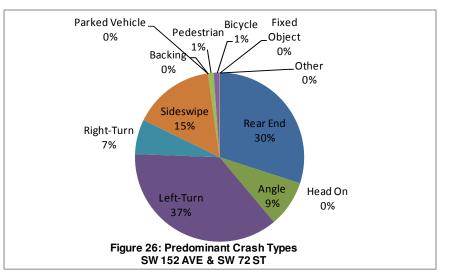
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 152 Avenue is a four lane urban arterial divided by a raised median that runs north-south, and SW 72 Street is a four lane urban arterial divided by a raised median that runs east-west.

#### 3.7.2. Safety Conditions and Analysis

The intersection of SW 152 Avenue and SW 72 Street is ranked number 7 in our high crash locations list. A review of the hard copy police reports for the year 2006 through 2008 was performed. During the three-year analysis period, 90 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 30. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 26*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 18* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 2.398, 2.212, and 1.720, respectively. The safety ratio for the three years averaged 2.110. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that left-turn, right-turn and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 19*.



|                         |   | (4 Lane          | x 4 Lane.   |   |   |             | & SW 72 S<br>4 Leg Inters    |                             | e 28) - URBAN  | N Spot                                    |  |                                      |                  |
|-------------------------|---|------------------|---|---|---|-------------|------------------------------|-----------------------------|--|---|--|--------------------------------------|------------------|
|                         |   |                  | R OF CF   |   | 3 YEAR  | %           |                              |                             |  | ASH VALUE                                 | ABNORM                                     | ALLY HIGH                            | CRASHES          |
|                         | TYPE OF CRASH   | 2006             | YEAR<br>2007  | 2008  | TOTAL<br>CRASHE                                     | of<br>Total | Accidents<br>per Year        | MEAN                        | 90th<br>Percentile   | 95th<br>Percentile                        | Mean                                       | 90th<br>Percentil                    | 95th<br>Percenti |
| COLLISION TYPE          | Rear End  | 12               | 11  | 4   | 27  | 15%         | 9.00                         | 5.70                        | 16.96  | 19.12                                     | Х  |                                      |                  |
|                         | Head On   | 0                | 0   | 0   | 0   | 0%<br>3%    | 0.00                         | 0.33                        | 1.02   | 1.15                                      |  |                                      |                  |
|                         | Angle<br>Left Turn  | 4                | 2<br>13   | 2   | 8   | 3%<br>14%   | 2.67<br>11.00                | 3.05<br>1.67                | 7.08   | 7.85                                      | х  | x                                    | x                |
|                         | Right Turn  | 3                | 1   | 2   | 6   | 2%          | 2.00                         | 0.33                        | 1.25   | 1.42                                      | X  | x                                    | X                |
|                         | Sideswipe   | 2                | 5   | 7   | 14  | 6%          | 4.67                         | 1.60                        | 4.64   | 5.22                                      | Х  | Х                                    |                  |
|                         | Backed Into<br>Coll. w/ Parked Car  | 0                | 0   | 0   | 0   | 0%<br>0%    | 0.00                         | 0.17                        | 0.56   | 0.63 0.59                                 |  |                                      |                  |
|                         | Coll. w/ Pedestrian   | 0                | 0   | 1   | 1   | 0%          | 0.00                         | 0.10                        | 1.04   | 1.19                                      | х  |                                      |                  |
|                         | Coll. w/ Bicycle  | 1                | 0   | 0   | 1   | 0%          | 0.33                         | 0.09                        | 0.33   | 0.38                                      | X  | Х                                    |                  |
|                         | Fixed Object  | 0                | 0   | 0   | 0   | 0%          | 0.00                         | 0.03                        | 0.21   | 0.24                                      |  |                                      |                  |
|                         | Ran Off Road<br>Overtuned   | 0                | 0   | 0   | 0   | 0%<br>0%    | 0.00                         | 0.00                        | 0.00   | 0.00                                      |  |                                      |                  |
|                         | Other   | 0                | 0   | 0   | 0   | 0%          | 0.00                         | 3.70                        | 8.83   | 9.82                                      |  |                                      |                  |
|                         | Total Crashes   | 34               | 32  | 24  | 90  | 24%         | 30.00                        | 17.77                       | 40.96  | 45.39                                     | Х  |                                      |                  |
| SEVERITY                | PDO crashes   | 30               | 27  | 23  | 80  | 89%         | 26.67                        | 9.93                        | 22.30  | 24.67                                     | Х  | X                                    | Х                |
|                         | Fatal crashes   | 0                | 0   | 0   | 0   | 0%<br>11%   | 0.00                         | 0.05                        | 0.26 33.08   | 0.29                                      |  |                                      |                  |
| IGHT CONDITIONS         | Injury crashes<br>Day Light   | 4                | 5<br>19   | 1<br>16   | 10<br>53  | 11%<br>59%  | 3.33<br>17.67                | 13.14<br>12.40              | 33.08<br>29.18   | 36.90<br>32.39                            | x  |                                      | ł                |
|                         | Dusk  | 0                | 1   | 1   | 2   | 2%          | 0.67                         | 0.28                        | 0.87   | 0.98                                      | x  |                                      |                  |
|                         | Dawn  | 0                | 0   | 0   | 0   | 0%          | 0.00                         | 0.17                        | 0.56   | 0.63                                      |  |                                      |                  |
|                         | Dark  | 16               | 12  | 7   | 35<br>0   | 39%         | 11.67                        | 4.56                        | 10.53  | 11.68                                     | Х  | X                                    | I                |
| URFACE CONDITIONS       | Unknown<br>Dry  | 0<br>23          | 0<br>28   | 0<br>22   | 0<br>73   | 0%<br>81%   | 0.00 24.33                   | 0.35                        | 1.05<br>34.45  | 1.18<br>38.12                             | x  | <u> </u>                             | l                |
|                         | Wet   | 2                | 4   | 2   | 8   | 9%          | 2.67                         | 2.10                        | 6.02   | 6.76                                      | x  |                                      |                  |
|                         | Others  | 9                | 0   | 0   | 9   | 10%         | 3.00                         | 0.37                        | 1.10   | 1.24                                      | Х  | X                                    | X                |
| NONTH OF A YEAR         | January   | 1                | 3   | 2   | 6   | 7%          | 2.00                         | 1.42                        | 3.33   | 3.69                                      | X  |                                      |                  |
|                         | February<br>March   | 4                | 2   | 1   | 7 9   | 8%<br>10%   | 2.33<br>3.00                 | 1.42<br>1.67                | 3.53<br>4.12   | 3.93<br>4.59                              | x<br>x                                     |                                      | <u> </u>         |
|                         | April   | 3                | 7   | 2   | 12  | 13%         | 4.00                         | 1.30                        | 3.21   | 3.57                                      | x  | х                                    | х                |
|                         | May   | 3                | 4   | 1   | 8   | 9%          | 2.67                         | 1.74                        | 4.46   | 4.99                                      | Х  |                                      |                  |
|                         | June  | 4                | 2   | 1   | 7   | 8%          | 2.33                         | 1.38                        | 3.49   | 3.90                                      | X  |                                      |                  |
|                         | July<br>August  | 0                | 3   | 4   | 7 6   | 8%<br>7%    | 2.33<br>2.00                 | 1.35<br>1.56                | 3.22<br>3.99   | 3.58<br>4.46                              | x<br>x                                     |                                      |                  |
|                         | September   | 7                | 1   | 1   | 9   | 10%         | 3.00                         | 1.46                        | 3.73   | 4.16                                      | - x  |                                      |                  |
|                         | October   | 3                | 1   | 1   | 5   | 6%          | 1.67                         | 1.47                        | 3.59   | 4.00                                      | Х  |                                      |                  |
|                         | November  | 2                | 0   | 5   | 7   | 8%          | 2.33                         | 1.39                        | 3.53   | 3.94                                      | X  |                                      |                  |
| DAY OF THE WEEK         | December<br>Sunday  | 4                | 0   | 3   | 7 6   | 8%<br>7%    | 2.33<br>2.00                 | 1.61<br>1.46                | 4.43   | 4.97<br>3.85                              | x<br>x                                     |                                      |                  |
|                         | Monday  | 2                | 7   | 1   | 10  | 11%         | 3.33                         | 2.70                        | 6.42   | 7.13                                      | - x  |                                      |                  |
|                         | Tuesday   | 7                | 1   | 3   | 11  | 12%         | 3.67                         | 2.49                        | 6.18   | 6.88                                      | Х  |                                      |                  |
|                         | Wednesday   | 6                | 6   | 8   | 20  | 22%         | 6.67                         | 2.56                        | 5.84   | 6.47                                      | X  | Х                                    | Х                |
|                         | Thursday<br>Friday  | 4                | 7   | 3   | 14<br>16  | 16%<br>18%  | 4.67<br>5.33                 | 2.88<br>3.07                | 7.20   | 8.03<br>8.35                              | x  |                                      |                  |
|                         | Saturday  | 7                | 2   | 3   | 12  | 13%         | 4.00                         | 2.61                        | 6.40   | 7.13                                      | - x  |                                      |                  |
| HOUR OF THE DAY         | 00:00-06:00   | 2                | 2   | 1   | 5   | 6%          | 1.67                         | 1.70                        | 3.39   | 3.71                                      |  |                                      |                  |
|                         | 06:00-09:00   | 2                | 4   | 3   | 9   | 10%         | 3.00                         | 1.98                        | 5.12   | 5.72                                      | Х  |                                      |                  |
|                         | 09:00-11:00<br>11:00-13:00  | 1 2              | 1<br>0  | 1   | 3   | 3%<br>3%    | 1.00                         | 1.72<br>2.40                | 4.23<br>6.30   | 4.71<br>7.05                              |  |                                      |                  |
|                         | 13:00-15:00   | 6                | 2   | 3   | 11  | 12%         | 3.67                         | 1.95                        | 5.32   | 5.96                                      | х  |                                      |                  |
|                         | 15:00-18:00   | 7                | 9   | 4   | 20  | 22%         | 6.67                         | 3.58                        | 7.81   | 8.62                                      | X  |                                      |                  |
|                         | 18:00-24:00   | 14               | 14  | 11  | 39  | 43%         | 13.00                        | 4.42                        | 10.63  | 11.82                                     | Х  | X                                    | Х                |
|                         |   |                  |   |   |   | YEAR        |                              | 3-Year                      | 1  |   |  |                                      |                  |
|                         |   |                  |   |   | 1   | 2           | 3                            | Average                     |  |   |  |                                      |                  |
| Average Daily Traffic A | ADT (Vehicles per D   | Day)             |   |   | 37,651  | 38,419      | 39,203                       | 38,424                      |  |   |  |                                      |                  |
| Florida Average Crash   |   |                  | terina Ve   | hicles)   | 0.420   | 0.424       | 0.394                        | 0.413                       |  |   |  |                                      |                  |
| -                       | 1.4.0 10.401100 per   |                  |   |   |   |             |                              |                             | -  |   |  |                                      |                  |
| Fraffic Base            |   |                  |   |   | 13.742  | 14.023      | 14.309                       | 14.025                      | -  |   |  |                                      |                  |
| Actual Crash Rate (Cr   | rashes per Million E  | ntering V        | ehicles)  |   | 2.474   | 2.282       | 1.677                        | 2.144                       | 1  |   |  |                                      |                  |
| Critical Crash Rate (C  | rashes per Million E  | Intering V       | (ehicles)   |   | 1.032   | 1.032       | 0.975                        | 1.013                       |  |   |  |                                      |                  |
| Safety Ratio            |   |                  |   |   | 2.398   | 2.212       | 1.720                        | 2.110                       |  |   |  |                                      |                  |
| High Crash Location     | ??  |                  |   |   | YES   | YES         | YES                          | YES                         | 1  |   |  |                                      |                  |
| CriticalCrashRa         | $Rate = \frac{A \times 1,00}{V}$ $ate = AVR + \frac{0.5}{TB} + \frac{1}{V}$ $\frac{Years \times ADT \times 3}{1,000,000}$ | 2                | V = Ave<br><u>Where:</u><br>AVR = D<br>TB = Tr<br>TF = Te<br>= 1. | Average Annua<br>Average Sta<br>affic Base<br>est Factor (z<br>96 (assume | al Daily Tra<br>atewide Cr<br>z-value)<br>e 95% Cor | affic X 365 | a particular<br>el for RURAI | type of interso<br>L areas) | ng in a 1 year<br>ection or roadv<br>Confidence I<br>68.30<br>86.60<br>90.00<br>95.00<br>95.00 | way segme<br>                             | Constant Z<br>1.00<br>1.50<br>1.64<br>1.96 |                                      |                  |
| Safety Ratio            | $= \frac{Actual Crash}{Critical Crash}$   | n Rate<br>h Rate | -   |   |   |             |                              |                             |  | 95.50<br>98.80<br>99.00<br>99.70<br>99.95 | )<br>)<br>)                                | 2.00<br>2.50<br>2.58<br>3.00<br>3.29 |                  |

# Table 18 – Crash Analysis – SW 152 Avenue and SW 72 Street



# Table 19 – Abnormal Crash Details & CountermeasuresSW 152 Avenue and SW 72 Street

|                         |                                     | SW 1  | 52 Aver   | nue & S   | W 72 S  | treet  |  |   |                         |                             |
|-------------------------|-------------------------------------|---|---|---|---|--|--|---|-------------------------|-----------------------------|
|                         | (4 Lane x 4 L                       | ane, Signalized, W  | /ith Turn L   | anes, 4 L   | eg Interse  | ection -Table  | 28) - URE  | BAN Spot  |                         |                             |
|                         |                                     |   | NUMBE   | R OF CR   | ASHES   | 3 YEAR   | %  | MEAN  | Possible                | Counter-                    |
|                         |                                     |   |   | YEAR  |   | TOTAL  | of   | Accidents   |                         |                             |
|                         |                                     |   | 2006  | 2007  | 2008  | CRASHES  | Total  | per Year  | Cause(s)                | measure(s)                  |
|                         | Total Left Tur                      | n Crashes   | 12  | 13  | 8   | 33   | 100%   | 11.00   | (9)                     | 9                           |
|                         |                                     | Day Light   | 8   | 8   | 5   | 21   | 64%  | 7.00  | (13)                    | 13                          |
|                         | Lighting Conditions                 | Dawn  | 0   | 0   | 3   | 3  | 9%   | 1.00  | (19)                    | 16                          |
|                         |                                     | Dark  | 4   | 5   | 0   | 9  | 27%  | 3.00  |                         |                             |
|                         |                                     | 00:00 - 06:00   | 0   | 0   | 0   | 03   | 0%   | 0.00  |                         |                             |
|                         |                                     | 06:00 - 09:00<br>09:00 - 11:00  | 1   | 0   | 2   | 2  | 9%<br>6%   | 1.00<br>0.67  |                         |                             |
|                         | Hours of Day                        | 11:00 - 13:00   | 1   | 0   | 1   | 2  | 6%   | 0.67  |                         |                             |
| Left Turn               |                                     | 13:00 - 15:00   | 4   | Ő   | 1   | 5  | 15%  | 1.67  |                         |                             |
|                         |                                     | 15:00 - 18:00   | 2   | 6   | 0   | 8  | 24%  | 2.67  |                         |                             |
|                         |                                     | 18:00 - 24:00   | 4   | 6   | 3   | 13   | 39%  | 4.33  |                         |                             |
|                         |                                     | $NB \rightarrow WB$   | 2   | 1   | 2   | 5  | 15%  | 1.67  |                         |                             |
|                         | Dissetion                           | $WB \rightarrow SB$   | 5   | 7   | 3   | 15   | 45%  | 5.00  |                         |                             |
|                         | Direction                           | $SB \rightarrow EB$   | 1 4   | 0   | 1   | 2  | 6%   | 0.67  |                         |                             |
|                         |                                     | $\frac{EB \to NB}{Unknown}$   | 4   | 5<br>0  | 2   | 11<br>0  | <u>33%</u><br>0%   | 3.67<br>0.00  |                         |                             |
|                         |                                     | Unknown   | U   | U   | 0   | U  | 0%   | 0.00  |                         |                             |
|                         |                                     |   | NUMBE   | R OF CR   | ASHES   | 3 YEAR   | %  | MEAN  |                         |                             |
|                         |                                     |   | NOWIDE  | YEAR  | ASHLS   | TOTAL  | of   | Accidents   | Possible                | Counter-                    |
|                         |                                     |   | 2006  | 2007  | 2008  |  | Total  |   | Cause(s)                | measure(s                   |
|                         | Total Right Tu                      | Irn Crashes   | 3   | 1   | 2000  | CRASHES<br>6   | 100%   | per Year<br>2.00  | (1)                     | 9                           |
|                         | Total Hight H                       | DayLight  | 1   | 1   | 1   | 3  | 50%  | 1.00  | (8)                     | 21                          |
|                         | Lighting Conditions                 | Dawn  | 0   | 0   | 0   | 0  | 0%   | 0.00  | (9)                     | 21                          |
|                         | 3 . 3                               | Dark  | 2   | 0   | 1   | 3  | 50%  | 1.00  | (16)                    |                             |
|                         |                                     | 00:00 - 06:00   | 0   | 0   | 0   | 0  | 0%   | 0.00  | · · /                   |                             |
|                         |                                     | 06:00 - 09:00   | 0   | 1   | 0   | 1  | 17%  | 0.33  |                         |                             |
|                         |                                     | 09:00 - 11:00   | 0   | 0   | 0   | 0  | 0%   | 0.00  |                         |                             |
| Right Turn              | Hours of Day                        | 11:00 - 13:00   | 1   | 0   | 0   | 1  | 17%  | 0.33  |                         |                             |
| •                       |                                     | 13:00 - 15:00   | 0   | 0   | 0   | 0  | 0%<br>17%  | 0.00 0.33   |                         |                             |
|                         |                                     | 15:00 - 18:00<br>18:00 - 24:00  | 1   | 0   | 2   | 3  | 50%  | 1.00  |                         |                             |
|                         |                                     | NB→EB   | 1   | Ť   | 1   | 3  | 50%  | 1.00  |                         |                             |
|                         |                                     | EB→SB   | 1   | 0   | 0   | 1  | 17%  | 0.33  |                         |                             |
|                         | Direction                           | WB→NB   | 1   | 0   | 1   | 2  | 33%  | 0.67  |                         |                             |
|                         |                                     | SB→WB   | 0   | 0   | 0   | 0  | 0%   | 0.00  |                         |                             |
|                         |                                     | Unknown   | 0   | 0   | 0   | 0  | 0%   | 0.00  |                         |                             |
|                         |                                     |   |   |   |   |  |  |   |                         |                             |
|                         |                                     |   |   |   |   |  |  |   |                         |                             |
|                         |                                     |   | NUMBE   | B OF CB   | ASHES   | 2 VEAD   | 0/_  | MEAN  |                         |                             |
|                         |                                     |   | NUMBE   |   | ASHES   | 3 YEAR   | %<br>of  | MEAN  | Possible                | Counter-                    |
|                         |                                     |   |   | YEAR  |   | TOTAL  | of   | Accidents   | Possible<br>Cause(s)    | Counter-<br>measure(s       |
|                         | Total Sideswi                       | ne Crashes  | 2006  | YEAR<br>2007  | 2008  | TOTAL<br>CRASHES   | of<br>Total  | Accidents<br>per Year   | Cause(s)                | measure(s                   |
|                         | Total Sideswi                       |   |   | YEAR<br>2007<br>5   | 2008<br>7   | TOTAL  | of<br>Total<br>100%  | Accidents<br>per Year<br>4.67   | Cause(s)<br>(8)         |                             |
|                         | Total Sideswi                       | pe Crashes<br>Day Light<br>Dawn   | 2006<br>2   | YEAR<br>2007  | 2008  | TOTAL<br>CRASHES   | of<br>Total  | Accidents<br>per Year   | Cause(s)                | <mark>measure(s</mark><br>5 |
|                         |                                     | DayLight<br>Dawn<br>Dark  | 2006<br>2<br>0  | YEAR<br>2007<br>5<br>2  | 2008<br>7<br>5  | TOTAL<br>CRASHES<br>14<br>7<br>0<br>7  | of<br>Total<br>100%<br>50%<br>0%<br>50%  | Accidents<br>per Year<br>4.67<br>2.33<br>0.00<br>2.33   | Cause(s)<br>(8)<br>(18) | <mark>measure(s</mark><br>5 |
|                         |                                     | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00  | 2006<br>2<br>0<br>0<br>2<br>0   | YEAR<br>2007<br>5<br>2<br>0   | <b>2008</b><br>7<br>5<br>0<br>2<br>1  | TOTAL<br>CRASHES<br>14<br>7<br>0<br>7<br>2   | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%   | Accidents<br>per Year<br>4.67<br>2.33<br>0.00<br>2.33<br>0.67   | Cause(s)<br>(8)<br>(18) | <mark>measure(s</mark><br>5 |
|                         |                                     | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00   | 2006<br>2<br>0<br>0<br>2<br>0<br>2<br>0<br>0                                    | YEAR<br>2007<br>5<br>2<br>0<br>3<br>1<br>1  | 2008<br>7<br>5<br>0<br>2<br>1<br>0  | TOTAL           CRASHES           14           7           0           7           2           1   | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%<br>7%   | Accidents<br>per Year<br>2.33<br>0.00<br>2.33<br>0.67<br>0.33   | Cause(s)<br>(8)<br>(18) | measure(s                   |
| Sidomina                | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00  | 2006<br>2<br>0<br>2<br>2<br>0<br>0<br>0<br>0<br>0                               | YEAR<br>2007<br>5<br>2<br>0<br>3<br>1<br>1<br>1<br>0  | 2008<br>7<br>5<br>0<br>2<br>1<br>0<br>0   | TOTAL           CRASHES           14           7           0           7           2           1           0   | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%<br>7%<br>0%   | Accidents<br>per Year<br>4.67<br>2.33<br>0.00<br>2.33<br>0.67<br>0.33<br>0.00   | Cause(s)<br>(8)<br>(18) | <mark>measure(s</mark><br>5 |
| Sideswipe               |                                     | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00   | 2006<br>2<br>0<br>2<br>0<br>0<br>0<br>0<br>0                                    | YEAR<br>2007<br>5<br>2<br>0<br>3<br>1<br>1<br>0<br>0  | 2008<br>7<br>5<br>0<br>2<br>1<br>0<br>0<br>0<br>0                               | TOTAL           CRASHES           14           7           0           7           2           1           0           0   | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%<br>7%<br>0%<br>0%   | Accidents<br>per Year<br>2.33<br>0.00<br>2.33<br>0.67<br>0.33<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(18) | measure(s                   |
| Sideswipe<br>(Overtake) | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00  | 2006<br>2<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                | YEAR<br>2007<br>2<br>0<br>3<br>1<br>1<br>0<br>0<br>0  | 2008<br>7<br>5<br>0<br>2<br>1<br>0<br>0<br>0<br>0                               | TOTAL           CRASHES           14           7           0           7           2           1           0           0   | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%<br>7%<br>0%<br>0%<br>0%                                   | Accidents<br>per Year<br>2.33<br>0.00<br>2.33<br>0.67<br>0.33<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(18) | measure(s                   |
|                         | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00                           | 2006<br>2<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1                | YEAR<br>2007<br>5<br>2<br>0<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>0   | 2008<br>7<br>5<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1                     | <b>TOTAL</b><br><b>CRASHES</b><br>14<br>7<br>0<br>7<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>2  | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%<br>7%<br>0%<br>0%<br>0%<br>0%<br>0%<br>14%                | Accidents<br>per Year<br>2.33<br>0.00<br>2.33<br>0.67<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00                                 | Cause(s)<br>(8)<br>(18) | measure(s                   |
|                         | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00                           | 2006<br>2<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1                | YEAR<br>2007<br>5<br>2<br>0<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>3<br>3  | 2008<br>7<br>5<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>5                | TOTAL<br>CRASHES<br>14<br>7<br>0<br>7<br>2<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>2<br>9  | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%<br>7%<br>0%<br>0%<br>0%<br>0%<br>0%<br>14%<br>64%         | Accidents<br>per Year<br>4.67<br>2.33<br>0.00<br>2.33<br>0.67<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>3.00                 | Cause(s)<br>(8)<br>(18) | measure(s                   |
|                         | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 09:00<br>11:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North | 2006<br>2<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>0           | YEAR<br>2007<br>5<br>2<br>0<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>0   | 2008<br>7<br>5<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1                     | <b>TOTAL</b><br><b>CRASHES</b><br>14<br>7<br>0<br>7<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>2  | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>14%<br>64%<br>36%  | Accidents<br>per Year<br>4.67<br>2.33<br>0.00<br>2.33<br>0.67<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>3.00<br>1.67         | Cause(s)<br>(8)<br>(18) | <mark>measure(s</mark><br>5 |
|                         | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00                           | 2006<br>2<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1                | YEAR           2007           5           2           0           3           1           0           0           0           3           3           3           3   | 2008<br>7<br>5<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>5<br>2           | <b>TOTAL</b><br>CRASHES<br>14<br>7<br>0<br>2<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>9<br>9<br>5   | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%<br>7%<br>0%<br>0%<br>0%<br>0%<br>0%<br>14%<br>64%         | Accidents<br>per Year<br>4.67<br>2.33<br>0.00<br>2.33<br>0.67<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>3.00                 | Cause(s)<br>(8)<br>(18) | <mark>measure(s</mark><br>5 |
|                         | Lighting Conditions<br>Hours of Day | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>11:00 - 13:00<br>11:00 - 13:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South         | 2006<br>2<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0 | YEAR           2007           5           2           0           3           1           0           0           0           3           1           1           0           0           3           3           1 | 2008<br>7<br>5<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>5<br>5<br>2<br>1 | TOTAL           CRASHES           14           7           0           7           2           1           0           0           0           2           5           2 | of<br>Total<br>100%<br>50%<br>0%<br>50%<br>14%<br>0%<br>0%<br>0%<br>0%<br>0%<br>14%<br>64%<br>36%<br>14% | Accidents<br>per Year<br>2.33<br>0.00<br>2.33<br>0.67<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>3.00<br>1.67<br>0.67 | Cause(s)<br>(8)<br>(18) | <mark>measure(s</mark><br>5 |

# 3.7.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 152 Avenue and SW 72 Street were performed on a typical weekday on November 15, 2010. A summary of the traffic data is presented in *Figure 27*, and the field review is presented in *Figure 28*.

This intersection has single left-turn bays for all approaches. The signal operation is protected/permissive for all approaches left-turn traffic.



The gas station and Westlake Plaza located along the south side of SW 72 Street of this intersection presents many consecutive driveways that generate potential conflicts with the other movements.

The west leg has a median opening with a westbound left-turn lane 130 feet from the intersection. Several conflicts between eastbound traffic and vehicles entering and existing from that driveway were observed.

This intersection presents a large offset alignment between eastbound and westbound leftturn lanes. Although this intersection allows U-turns, it was perceived that potential conflicts between those vehicles ad through traffic could occur especially during the peak period.

It was noticed that the number of left-turn vehicles sometimes exceeds the storage capacity of the turn bays for eastbound, westbound and northbound approaches.

Red light running was observed at the intersection.

#### 3.7.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 152 Avenue and SW 72 Street, the following is recommended:

- Realignment of the eastbound/westbound left-turn lanes to reduce the offset and lineup with the opposite left-turn lane.
- Closing the median opening on the west leg, and lengthen the eastbound left-turn lane to 200 ft. Also, provide a westbound left-turn bay at the second median opening.
- Lengthen the westbound left-turn lane to approximately 400 ft.
- Lengthen the northbound left-turn lane to approximately 200 ft.
- Improve the turn radius at the northeast and southeast corners.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Installing "No U-Turn" (R3-4) signs for eastbound/westbound approaches.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 29.





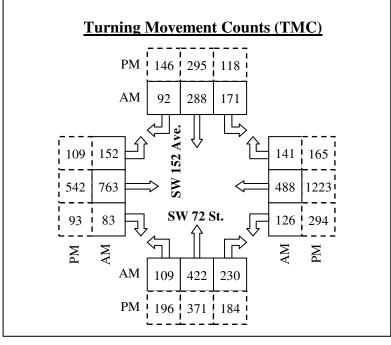


Figure 27: Traffic Data – SW 152 Avenue and SW 72 Street





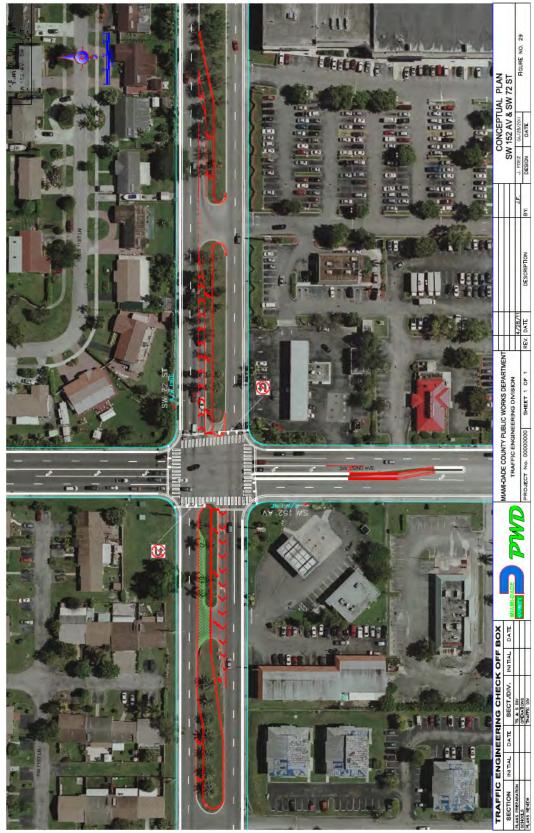


Faded pavement markings and uneven pavement patches.

Figure 28: Field Review – SW 152 Avenue and SW 72 Street

Eastbound approach: Short left-turn bay.





# Figure 29: Conceptual Plan – SW 152 Avenue and SW 72 Street

Safety Studies at High Crash Locations Countywide



#### 3.8. NW 79 Avenue and NW 36 Street

#### 3.8.1. Site Description

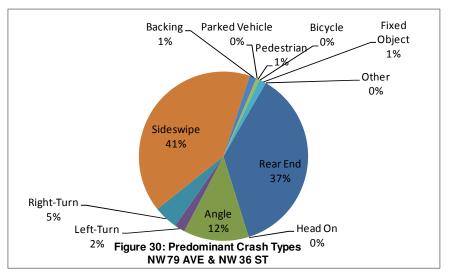
This intersection is a signalized four legged intersection located in the northwest part of Miami Dade County in the City of Doral. NW 79 Avenue is a four lane collector divided by a paved median that runs north-south, and NW 36 Street is a six lane urban arterial divided by a raised median that runs east-west.

#### 3.8.2. Safety Conditions and Analysis

The intersection of NW 79 Avenue and NW 36 Street is ranked number 8 in our high crash locations list. A review of the hard copy police reports for the year 2006 through 2008 was performed. During the three-year analysis period, 152 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 51. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 30*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the study intersection in



relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 20* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 2.145, 2.189, and 2.568, respectively. The safety ratio for the three years averaged 2.301. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that rear end, right-turn and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 21*.



|                          |  | (6   005         | x 4   on-       |                              |                 |              | NW 36 S  |                  | e 35) - URBAN                                | Al Spot                          |                 |                              |             |
|--------------------------|--|------------------|-----------------|------------------------------|-----------------|--------------|--|------------------|--|----------------------------------|-----------------|------------------------------|-------------|
|                          |  |                  |                 |                              |                 |              |  |                  |  |                                  |                 |                              |             |
|                          | TYPE OF CRASH  |                  | R OF CF<br>YEAR |                              | 3 YEAR<br>TOTAL | %<br>of      | MEAN<br>Accidents                                  | EXPECTED<br>MEAN | 90th   | ASH VALUE<br>95th                | ABNORM.<br>Mean | 90th                         | 95th        |
| COLLISION TYPE           | Rear End   | 2006<br>19       | 2007<br>18      | 2008<br>19                   | CRASHE<br>56    | Total<br>18% | 18.67  | 8.68             | Percentile<br>17.26                          | Percentile<br>18.90              | x               | Percentil<br>X               | Percenti    |
|                          | Head On  | 0                | 0               | 0                            | 0               | 0%           | 0.00   | 0.60             | 1.64   | 1.84                             | ~               | ^                            |             |
|                          | Angle  | 2                | 6               | 11                           | 19              | 5%           | 6.33   | 5.40             | 9.19   | 9.92                             | Х               |                              |             |
|                          | Left Turn  | 2                | 1               | 0                            | 3               | 1%<br>1%     | 1.00<br>2.33                                       | 3.00<br>0.46     | 6.13   | 6.73                             | x               | x                            | x           |
|                          | Right Turn<br>Sideswipe  | 3<br>20          | 3<br>19         | 23                           | 62              | 13%          | 2.33   | 2.58             | 1.36   | 1.53<br>5.37                     | x               | x                            | - Â         |
|                          | Backed Into  | 0                | 1               | 1                            | 2               | 0%           | 0.67   | 0.28             | 0.84   | 0.94                             | x               | ~                            |             |
|                          | Coll. w/ Parked Car  | 0                | 0               | 0                            | 0               | 0%           | 0.00   | 0.12             | 0.57   | 0.65                             |                 |                              |             |
|                          | Coll. w/ Pedestrian  | 0                | 0               | 1                            | 1               | 0%           | 0.33   | 0.74             | 1.80   | 2.00                             |                 |                              |             |
|                          | Coll. w/ Bicycle<br>Fixed Object   | 0                | 0               | 0                            | 0 2             | 0%<br>0%     | 0.00   | 0.14 0.79        | 0.49   | 0.55                             |                 |                              |             |
|                          | Ran Off Road   | 0                | 0               | 0                            | 0               | 0%           | 0.00   | 0.01             | 0.11   | 0.13                             |                 |                              |             |
|                          | Overtuned  | 0                | 0               | 0                            | 0               | 0%           | 0.00   | 0.04             | 0.28   | 0.33                             |                 |                              |             |
|                          | Other  | 0                | 0               | 0                            | 0               | 0%           | 0.00   | 8.67             | 21.05  | 23.42                            |                 |                              |             |
| SEVERITY                 | Total Crashes<br>PDO crashes   | 47<br>45         | 48<br>45        | 57<br>56                     | 152<br>146      | 23%<br>96%   | 50.67<br>48.67                                     | 31.51<br>19.21   | 54.94<br>36.95                               | 59.43<br>40.35                   | X               | x                            | x           |
| JET EI 11 1              | Fatal crashes  | 45<br>0          | 45              | 0                            | 0               | 96%          | 0.00   | 0.16             | 0.56   | 40.35                            | ^               | <u>^</u>                     | <u>⊢ ^ </u> |
|                          | Injury crashes   | 2                | 3               | 1                            | 6               | 4%           | 2.00   | 20.77            | 38.34  | 41.71                            |                 |                              |             |
| LIGHT CONDITIONS         | Day Light  | 36               | 36              | 45                           | 117             | 77%          | 39.00  | 19.89            | 35.12  | 38.03                            | Х               | Х                            | Х           |
|                          | Dusk<br>Dawn   | 0                | 0               | 1                            | 1 5             | 1%<br>3%     | 0.33   | 0.61             | 1.43   | 1.58<br>1.16                     | x               | x                            | x           |
|                          | Dawn<br>Dark   | 2<br>9           | 2               | 10                           | 5<br>29         | 3%<br>19%    | 9.67   | 0.38             | 18.94  | 20.61                            | ^               | ^                            | <u> </u>    |
|                          | Unknown  | 0                | 0               | 0                            | 0               | 0%           | 0.00   | 0.41             | 1.15   | 1.30                             |                 |                              |             |
| SURFACE CONDITIONS       | Dry  | 35               | 41              | 47                           | 123             | 81%          | 41.00  | 26.41            | 45.71  | 49.41                            | X               |                              |             |
|                          | Wet  | 2                | 7               | 9                            | 18              | 12%          | 6.00   | 4.41             | 8.78   | 9.62                             | X               | ~                            |             |
| MONTH OF A YEAR          | Others<br>January  | 10               | 0               | 1<br>5                       | 11<br>17        | 7%<br>11%    | 3.67<br>5.67                                       | 0.69             | 1.88<br>5.04                                 | 2.11<br>5.52                     | X               | X<br>X                       | X           |
| IN THE REAL              | January<br>February  | 7                | 3               | 5<br>6                       | 17              | 11%          | 5.67   | 2.57             | 4.59   | 5.52                             | X               | X                            | X           |
|                          | March  | 5                | 5               | 4                            | 14              | 9%           | 4.67   | 3.09             | 5.92   | 6.46                             | Х               |                              |             |
|                          | April  | 7                | 3               | 6                            | 16              | 11%          | 5.33   | 2.57             | 5.30   | 5.82                             | Х               | Х                            |             |
|                          | May  | 0                | 4 0             | 6                            | 10              | 7%           | 3.33   | 2.51.            | 4.81   | 5.25                             |                 |                              |             |
|                          | June<br>July   | 0                | 3               | 5                            | 8<br>10         | 5%<br>7%     | 2.67<br>3.33                                       | 2.81<br>2.60     | 5.74<br>4.96                                 | 6.30<br>5.42                     | x               |                              |             |
|                          | August   | 3                | 3               | 5                            | 11              | 7%           | 3.67   | 3.00             | 5.66   | 6.17                             | X               |                              |             |
|                          | September  | 4                | 8               | 1                            | 13              | 9%           | 4.33   | 2.48             | 4.92   | 5.39                             | Х               |                              |             |
|                          | October  | 2                | 5               | 3                            | 10              | 7%           | 3.33   | 2.89             | 5.40   | 5.88                             | X               |                              |             |
|                          | November   | 7 4              | 4               | 0                            | 11              | 7%<br>10%    | 3.67   | 2.41             | 4.85<br>4.55                                 | 5.32                             | X<br>X          | x                            | x           |
| DAY OF THE WEEK          | December<br>Sunday   | 4                | 3               | 8                            | 15<br>2         | 10%          | 5.00<br>0.67                                       | 2.22             | 6.58   | 5.00<br>7.08                     | ^               | ^                            | <u> </u>    |
|                          | Monday   | 9                | 9               | 13                           | 31              | 20%          | 10.33  | 4.62             | 9.23   | 10.11                            | х               | х                            | x           |
|                          | Tuesday  | 8                | 4               | 5                            | 17              | 11%          | 5.67   | 4.46             | 7.81   | 8.46                             | Х               |                              |             |
|                          | Wednesday  | 10               | 9               | 7                            | 26              | 17%          | 8.67   | 4.56             | 8.62   | 9.40                             | X               | Х                            |             |
|                          | Thursday   | 12<br>4          | 5<br>9          | 9<br>11                      | 26<br>24        | 17%<br>16%   | 8.67<br>8.00                                       | 5.04<br>4.86     | 9.04<br>9.39                                 | 9.80<br>10.26                    | X               |                              |             |
|                          | Friday<br>Saturday   | 4                | 12              | 10                           | 24              | 17%          | 8.67   | 3.98             | 8.10   | 8.89                             | x               | x                            |             |
| HOUR OF THE DAY          | 00:00-06:00  | 3                | 5               | 4                            | 12              | 8%           | 4.00   | 3.79             | 8.65   | 9.58                             | X               | ~                            |             |
|                          | 06:00-09:00  | 4                | 6               | 7                            | 17              | 11%          | 5.67   | 3.44             | 6.94   | 7.61                             | Х               |                              |             |
|                          | 09:00-11:00  | 4                | 5               | 5                            | 14              | 9%           | 4.67   | 2.58             | 5.30   | 5.82                             | X               |                              |             |
|                          | 11:00-13:00<br>13:00-15:00   | 5<br>8           | 4               | 7<br>6                       | 16<br>21        | 11%<br>14%   | 5.33<br>7.00                                       | 3.12<br>3.57     | 5.78<br>6.32                                 | 6.29<br>6.85                     | x               | x                            | x           |
|                          | 15:00-18:00  | 16               | 13              | 11                           | 40              | 26%          | 13.33  | 6.38             | 11.52  | 12.50                            | x               | x                            | x           |
|                          | 18:00-24:00  | 7                | 8               | 17                           | 32              | 21%          | 10.67  | 8.60             | 15.51  | 16.83                            | X               |                              |             |
|                          |  |                  |                 |                              |                 |              |  |                  |  |                                  |                 |                              |             |
|                          |  |                  |                 |                              | L               | YEAR         |  | 3-Year           |  |                                  |                 |                              |             |
|                          |  |                  |                 |                              | 1               | 2            | 3  | Average          | 1  |                                  |                 |                              |             |
| Average Daily Traffic A  | ADT (Vehicles per D  | Day)             |                 |                              | 50,468          | 51,498       | 52,549   | 51,505           | 1  |                                  |                 |                              |             |
| Florida Average Crash    | rate (Crashes per  | Million En       | tering Ve       | hicles)                      | 0.579           | 0.568        | 0.566  | 0.571            | 1  |                                  |                 |                              |             |
| Traffic Base             |  |                  | 3 -             | -/                           | 18.421          | 18.797       | 19.180   | 18.799           | 1  |                                  |                 |                              |             |
|                          |  |                  | -hiel · · · ·   |                              |                 |              |  |                  | 4  |                                  |                 |                              |             |
| Actual Crash Rate (Cr    | 1  | <u> </u>         | ,               |                              | 2.551           | 2.554        | 2.972  | 2.692            | 4  |                                  |                 |                              |             |
| Critical Crash Rate (C   | rashes per Million E   | Entering V       | 'ehicles)       |                              | 1.189           | 1.167        | 1.157  | 1.171            | 1  |                                  |                 |                              |             |
| Safety Ratio             |  |                  |                 |                              | 2.145           | 2.189        | 2.568  | 2.301            | 1  |                                  |                 |                              |             |
| ,<br>High Crash Location | ??   |                  |                 |                              | YES             | YES          | YES  | YES              | 1  |                                  |                 |                              |             |
| •                        | $Rate = \frac{A \times 1,00}{V}$   | 0,000            |                 |                              |                 | f crashes    | or number of                                       |                  | type occurring                               | ng in a 1 year                   | period.         |                              |             |
| CriticalCrashRa          | $CriticalCrashRate = AVR + \frac{0.5}{TB} + TF \sqrt{\frac{AVR}{TB}} \qquad \qquad \frac{Where}{AVR} = TF = TF = TF$ |                  |                 |                              |                 |              |  | ·                |  | Confidence I                     | Level (%)       | Constant Z                   | ]           |
| Traffic Base =           |  |                  |                 | nfidence Lev<br>Confidence L |                 |              | 68.30<br>86.60<br>90.00<br>95.00<br>95.50<br>98.80 | )<br>)<br>)      | 1.00<br>1.50<br>1.64<br>1.96<br>2.00<br>2.50 |                                  |                 |                              |             |
| Safety Ratio             | $= \frac{Actual Crash}{Critical Crash}$  | n Rate<br>h Rate | -               |                              |                 |              |  |                  |  | 98.80<br>99.00<br>99.70<br>99.95 | )               | 2.50<br>2.58<br>3.00<br>3.29 |             |

# Table 20 – Crash Analysis – NW 79 Avenue and NW 36 Street



#### Table 21 – Abnormal Crash Details & Countermeasures NW 79 Avenue and NW 36 Street

|            | (6 Lane v 4 L                         |   |   |  | V 36 St  | CCI   |  |  |          |            |
|------------|---------------------------------------|---|---|--|--|---|--|--|----------|------------|
|            | U Lane X 4 L                          | ane, Signalized, V  |   |  |  |   | e 35) - URI  | BAN Spot   |          |            |
| 1          |                                       |   | NUMB  | R OF CF  | ASHES  | 3 YEAR  | %  | MEAN   |          |            |
| 1          |                                       |   |   | YEAR   |  | TOTAL   | of   | Accidents  | Possible | Counter-   |
| 1          |                                       |   | 2006  | 2007   | 2008   | CRASHE  | Total  | per Year   | Cause(s) | measure(s) |
|            | Total Rear Er                         | nd Crashes  | 19  | 18   | 19   | 56  | 100%   | 18.67  | (1)      | 2          |
|            |                                       | Day Light   | 15  | 14   | 17   | 46  | 82%  | 15.33  | (4)      | 4          |
|            | Lighting Conditions                   | Dawn  | 0   | 0  | 0  | 0   | 0%   | 0.00   | (5)      | 6          |
|            |                                       | Dark  | 4   | 4  | 2  | 10  | 18%  | 3.33   | (8)      |            |
|            |                                       | 00:00 - 06:00   | 1   | 1  | 0  | 2   | 4%   | 0.67   |          |            |
|            |                                       | 06:00 - 09:00<br>09:00 - 11:00  | 2   | 4  | 4  | 10<br>8   | 18%<br>14%   | 3.33<br>2.67   |          |            |
|            | Hours of Day                          | 11:00 - 13:00   | 1   | 4  | 2  | 8<br>4  | 7%   | 1.33   |          |            |
| Rear End   | riouro or Day                         | 13:00 - 15:00   | 2   | 2  | 1  | 5   | 9%   | 1.67   |          |            |
|            |                                       | 15:00 - 18:00   | 8   | 3  | 5  | 16  | 29%  | 5.33   |          |            |
|            |                                       | 18:00 - 24:00   | 3   | 3  | 5  | 11  | 20%  | 3.67   |          |            |
|            |                                       | North   | 4   | 3  | 1  | 8   | 14%  | 2.67   |          |            |
|            |                                       | South   | 4   | 4  | 3  | 11  | 20%  | 3.67   |          |            |
|            | Direction                             | East  | 6   | 8  | 7  | 21  | 38%  | 7.00   |          |            |
|            |                                       | West  | 5   | 3  | 8  | 16  | 29%  | 5.33   |          |            |
|            |                                       | Unknown   | 0   | 0  | 0  | 0   | 0%   | 0.00   |          |            |
|            |                                       |   |   |  |  |   |  |  |          |            |
| 1          |                                       |   | NUMB  | R OF CF  | ASHES  | 3 YEAR  | %  | MEAN   | _        | _          |
| 1          |                                       |   |   | YEAR   |  | TOTAL   | of   | Accidents  | Possible | Counter-   |
| l l        |                                       |   | 2006  | 2007   | 2008   | CRASHE  | Total  | per Year   | Cause(s) | measure(s) |
|            | Total Sideswi                         | ne Crashes  | 2000  | 19   | 23   | 62  | 100%   | 20.67  | (16)     | 4          |
|            | 10141 01063 WI                        | Day Light   | 16  | 16   | 20   | 52  | 84%  | 17.33  | (10)     | 19         |
|            | Lighting Conditions                   | Dawn  | 2   | 1  | 2  | 5   | 8%   | 1.67   | (20)     | 21         |
|            | gg = =                                | Dark  | 2   | 2  | 1  | 5   | 8%   | 1.67   | (=0)     | 22         |
|            |                                       | 00:00 - 06:00   | 0   | 0  | 0  | 0   | 0%   | 0.00   |          |            |
|            |                                       | 06:00 - 09:00   | 2   | 1  | 2  | 5   | 8%   | 1.67   |          |            |
|            |                                       | 09:00 - 11:00   | 1   | 2  | 1  | 4   | 6%   | 1.33   |          |            |
| Sideswipe  | Hours of Day                          | 11:00 - 13:00   | 2   | 2  | 3  | 7   | 11%  | 2.33   |          |            |
| (Overtake) |                                       | 13:00 - 15:00   | 5   | 4  | 4  | 13  | 21%  | 4.33   |          |            |
|            |                                       | 15:00 - 18:00   | 7   | 6  | 4  | 17  | 27%  | 5.67   |          |            |
|            |                                       | 18:00 - 24:00   | 3   | 4  | 9  | 16  | 26%  | 5.33   |          |            |
|            |                                       | North   | 4   | 8  | 10   | 22<br>9   | 35%  | 7.33<br>3.00   |          |            |
|            | Direction                             | South<br>East   | 3   | 4  | 2  | 9<br>21   | 15%  | 7.00   |          |            |
|            | Direction                             | West  | 4   | 1  | 5  | 10  | 34%<br>16%   | 3.33   |          |            |
|            |                                       | Unknown   | 0   | 0  | 0  | 0   | 0%   | 0.00   |          |            |
|            |                                       |   |   |  |  |   | • / •  |  |          |            |
|            |                                       |   |   |  |  |   |  |  |          |            |
|            |                                       |   | NUMB  | R OF CF  | ASHES  | 3 YEAR  | %  | MEAN   | Possible | Counter-   |
|            |                                       |   |   | YEAR   |  | TOTAL   | of   | Accidents  | Cause(s) | measure(s) |
|            |                                       |   | 2006  | 2007   |  |   | Total  | per Year   |          | . ,        |
|            | T_0.1 B(1) 7                          | Orreade a   |   |  | 2008   | CRASHE  |  |  | 10       |            |
|            | Total Right Tu                        |   | 3   | 3  | 1  | 7   | 100%   | 2.33   | (8)      | 4          |
|            | , , , , , , , , , , , , , , , , , , , | Day Light   | 3   | <b>3</b><br>3  | 1<br>0   | 7<br>4  | <b>100%</b><br>57%   | <b>2.33</b><br>1.33  | (9)      | 9          |
|            | Total Right Tu<br>Lighting Conditions | Day Light<br>Dawn   | 3<br>1<br>0   | 3<br>3<br>0  | 1  | 7<br>4<br>0   | <b>100%</b><br>57%<br>0%   | 2.33<br>1.33<br>0.00   |          |            |
|            | , , , , , , , , , , , , , , , , , , , | Day Light<br>Dawn<br>Dark   | 3<br>1<br>0<br>2  | <b>3</b><br>3<br>0<br>0  | 1<br>0<br>0<br>1   | 7<br>4<br>0<br>3  | <b>100%</b><br>57%<br>0%<br>43%  | 2.33<br>1.33<br>0.00<br>1.00   | (9)      | 9          |
|            | , , , , , , , , , , , , , , , , , , , | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00  | <b>3</b> 1 0 2 1  | 3<br>3<br>0<br>0<br>0  | 1<br>0<br>0<br>1<br>1  | 7<br>4<br>0   | 100%<br>57%<br>0%<br>43%<br>29%  | <b>2.33</b><br>1.33<br>0.00<br>1.00<br>0.67  | (9)      | 9          |
|            | , , , , , , , , , , , , , , , , , , , | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00   | 3<br>1<br>0<br>2  | 3<br>3<br>0<br>0<br>0<br>1   | 1<br>0<br>0<br>1   | 7<br>4<br>0<br>3  | <b>100%</b><br>57%<br>0%<br>43%  | 2.33<br>1.33<br>0.00<br>1.00   | (9)      | 9          |
|            | , , , , , , , , , , , , , , , , , , , | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00   | <b>3</b> 1 0 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  | 3<br>3<br>0<br>0<br>0  | 1<br>0<br>1<br>1<br>0  | 7<br>4<br>0<br>3<br>2<br>1                                    | 100%<br>57%<br>0%<br>43%<br>29%<br>14%   | 2.33<br>1.33<br>0.00<br>1.00<br>0.67<br>0.33   | (9)      | 9          |
| Right Turn | Lighting Conditions                   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00   | <b>3</b> 1 0 2 1 0 0 0 0 0  | <b>3</b><br>0<br>0<br>0<br>1<br>0  | 1<br>0<br>1<br>1<br>0<br>0   | 7<br>4<br>0<br>3<br>2<br>1<br>0                               | 100%<br>57%<br>0%<br>43%<br>29%<br>14%<br>0%<br>0%<br>0%<br>14%                      | 2.33<br>1.33<br>0.00<br>1.00<br>0.67<br>0.33<br>0.00   | (9)      | 9          |
| Right Turn | Lighting Conditions                   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00  | <b>3</b><br>1<br>0<br>2<br>1<br>0<br>0<br>0   | 3<br>0<br>0<br>0<br>1<br>0<br>0  | 1<br>0<br>1<br>1<br>0<br>0<br>0  | 7<br>4<br>0<br>3<br>2<br>1<br>0<br>0                          | 100%<br>57%<br>0%<br>43%<br>29%<br>14%<br>0%<br>0%                                   | 2.33<br>1.33<br>0.00<br>1.00<br>0.67<br>0.33<br>0.00<br>0.00   | (9)      | 9          |
| Right Turn | Lighting Conditions                   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00                            | <b>3</b><br>1<br>0<br>2<br>1<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>1  | 3<br>0<br>0<br>1<br>0<br>0<br>0<br>2<br>0  | 1<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0                          | 7<br>4<br>0<br>3<br>2<br>1<br>0<br>0<br>1<br>2<br>1<br>2<br>1 | 100%<br>57%<br>0%<br>43%<br>29%<br>14%<br>0%<br>0%<br>14%<br>29%<br>14%              | 2.33<br>1.33<br>0.00<br>1.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.33<br>0.67<br>0.33                         | (9)      | 9          |
| Right Turn | Lighting Conditions                   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB                                    | <b>3</b><br>1<br>0<br>2<br>1<br>0<br>0<br>0<br>1<br>0<br>1<br>1<br>1  | 3<br>3<br>0<br>0<br>1<br>0<br>0<br>0<br>2<br>0<br>1  | 1<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0           | 7<br>4<br>0<br>3<br>2<br>1<br>0<br>0<br>1<br>2<br>1<br>2      | 100%<br>57%<br>0%<br>43%<br>29%<br>14%<br>0%<br>0%<br>14%<br>29%<br>14%<br>29%       | 2.33<br>1.33<br>0.00<br>1.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.33<br>0.67<br>0.33<br>0.67                 | (9)      | 9          |
| Right Turn | Lighting Conditions                   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB          | <b>3</b><br>1<br>0<br>2<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>0   | 3<br>3<br>0<br>0<br>1<br>0<br>0<br>2<br>0<br>1<br>0<br>1<br>0  | 1<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0                          | <b>7</b> 4 0 3 2 1 0 0 1 2 1 2 0 0 0 0 0 0 0 0 0 0 0 0        | 100%<br>57%<br>0%<br>43%<br>29%<br>14%<br>0%<br>0%<br>14%<br>29%<br>14%<br>29%<br>0% | 2.33<br>1.33<br>0.00<br>1.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.33<br>0.67<br>0.33<br>0.67<br>0.00         | (9)      | 9          |
| Right Turn | Lighting Conditions                   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB | <b>3</b><br>1<br>0<br>2<br>1<br>0<br>0<br>1<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 3<br>3<br>0<br>0<br>1<br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 1<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1 | <b>7</b> 4 0 3 2 1 0 0 1 2 1 2 0 0 2 0 2                      | 100%<br>57%<br>0%<br>43%<br>29%<br>14%<br>0%<br>0%<br>14%<br>29%<br>29%<br>0%<br>29% | 2.33<br>1.33<br>0.00<br>1.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.33<br>0.67<br>0.33<br>0.67<br>0.00<br>0.67 | (9)      | 9          |
| Right Turn | Lighting Conditions                   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB          | <b>3</b><br>1<br>0<br>2<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>0   | 3<br>3<br>0<br>0<br>1<br>0<br>0<br>2<br>0<br>1<br>0<br>1<br>0  | 1<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0           | <b>7</b> 4 0 3 2 1 0 0 1 2 1 2 0 0 0 0 0 0 0 0 0 0 0 0        | 100%<br>57%<br>0%<br>43%<br>29%<br>14%<br>0%<br>0%<br>14%<br>29%<br>14%<br>29%<br>0% | 2.33<br>1.33<br>0.00<br>1.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.33<br>0.67<br>0.33<br>0.67<br>0.00         | (9)      | 9          |

# 3.8.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at NW 79 Avenue and NW 36 Street were performed on a typical weekday on October 28, 2010. A summary of the traffic data is presented in *Figure 31*, and the field review is presented in *Figure 32*.



This intersection has single left-turn bays for northbound and eastbound approaches; with the westbound and southbound approaches having a double left-turn operation. The signal operation is split phases for northbound and southbound traffic, and protected for eastbound and westbound left-turn traffic.

Heavy traffic and long queues were observed for the eastbound approach. Also, the approach has three through lanes. However, there are four receiving lanes.

Due to the presence of the SR-826 highway ramps on the east leg, a considerable amount of weaving was observed in both east/west directions. Also, weaving and lane changes were noticed at northbound right-turns and southbound left-turns.

It was noticed that there are no signs to alert motorists that the southernmost lane of the eastbound receiving lanes is a right-turn only to access the SR-826 southbound.

The stop bar for the northbound approach is pulled away from the intersection which causes difficulties for right-turns on red.

The gas station driveways on the southwest corner present a conflict with the eastbound through traffic.

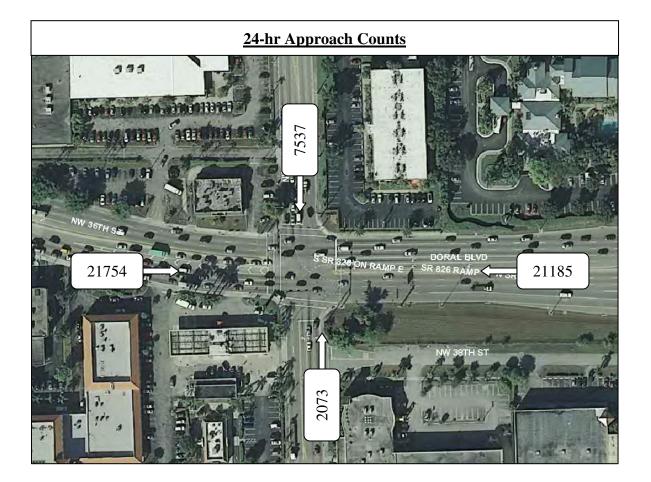
#### 3.8.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of NW 79 Avenue and NW 36 Street, the following is recommended:

- Add one through lane to the eastbound approach by converting the striped gore to a full lane and make the necessary changes on the receiving lanes pavement markings.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Installing advance guide signs for SR-826 for eastbound and northbound (FTP-17-06 & R3-5f) and southbound (FTP-17-06 & R3-5e).
- Relocate the northbound stop bar closer to the intersection to improve the sight distance triangles for northbound approach.
- Provide ADA approved pedestrian ramps at all corners.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 33.





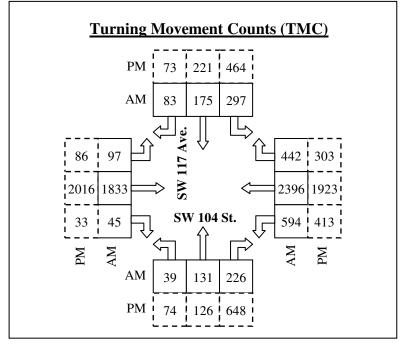


Figure 31: Traffic Data – NW 79 Avenue and NW 36 Street

Figure 32: Field Review – NW 79 Avenue and NW 36 Street





Northbound approach: Wide gap between

the stop bar and the intersection.



and heavy vehicles affect capacity.

Southbound left-turns: Considerable weaving to access the SR-826 ramps.

North side: Substandard sidewalks and pedestrian ramps.

Faded pavement markings.





MIAM



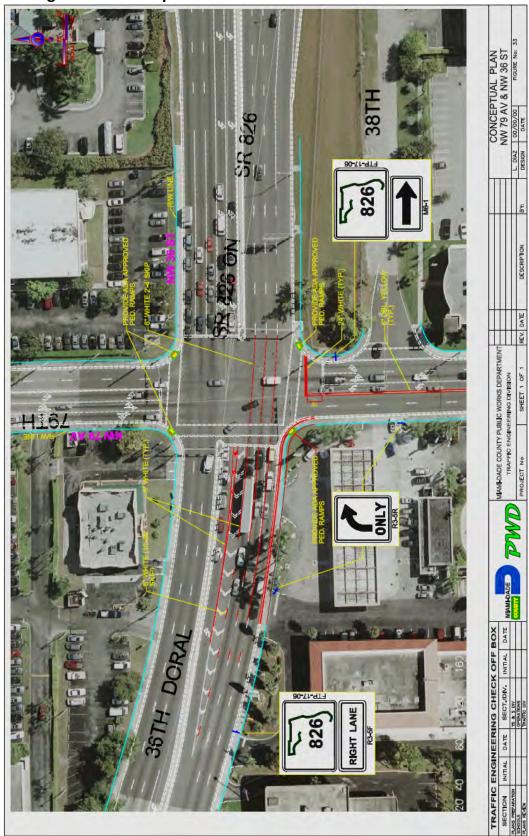


Figure 33: Conceptual Plan – NW 79 Avenue and NW 36 Street



#### 3.9. SW 137 Avenue and SW 56 Street

#### 3.9.1. Site Description

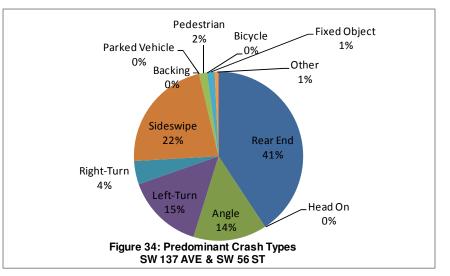
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 137 Avenue is a six lane urban arterial divided by a raised median that runs north-south, and SW 104 Street is a four lane urban arterial divided by a raised median that runs east-west.

#### 3.9.2. Safety Conditions and Analysis

The intersection of SW 137 Avenue and SW 56 Street is ranked number 9 in our high crash locations list. A review of the hard copy police reports for the year 2006 through 2008 was performed. During the three-year analysis period, 135 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 45. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 34*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 22* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.267, 1.297, and 1.687, respectively. The safety ratio for the three years averaged 1.417. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that rear end, left-turn, right-turn and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 23*.



|  |   | (6 Lane           | x 4 Lane,    |               |  |             | 4 Leg Inters          |                    | 9 35) - URBAN      | N Spot   |             |                              |                  |
|--|---|-------------------|--------------|---------------|--|-------------|-----------------------|--------------------|--------------------|--|-------------|------------------------------|------------------|
|  |   | NUMBER OF CRASHES |              |               | 3 YEAR   | %           | MEAN                  | EXPECTED ANNUAL CR |                    |  | ABNORM/     |                              |                  |
|  | TYPE OF CRASH                           | 2006              | YEAR<br>2007 | 2008          | TOTAL<br>CRASHE  | of<br>Total | Accidents<br>per Year | MEAN               | 90th<br>Percentile | 95th<br>Percentile   | Mean        | 90th<br>Percentil            | 95th<br>Percenti |
| COLLISION TYPE   | Rear End                                | 13                | 14           | 28            | 55   | 20%         | 18.33                 | 8.68               | 17.26              | 18.90  | Х           | Х                            |                  |
|  | Head On<br>Angle                        | 0<br>7            | 0<br>9       | 0             | 0  | 0%<br>6%    | 0.00 6.33             | 0.60 5.40          | 1.64<br>9.19       | 1.84<br>9.92   | x           |                              |                  |
|  | Left Turn                               | 9                 | 9            | 4             | 20   | 6%          | 6.67                  | 3.00               | 6.13               | 6.73   | X           | x                            |                  |
|  | Right Turn                              | 0                 | 2            | 4             | 6  | 1%          | 2.00                  | 0.46               | 1.36               | 1.53   | X           | X                            | x                |
|  | Sideswipe                               | 10                | 7            | 13            | 30   | 7%          | 10.00                 | 2.58               | 4.92               | 5.37   | Х           | Х                            | Х                |
|  | Backed Into                             | 0                 | 0            | 0             | 0  | 0%          | 0.00                  | 0.28               | 0.84               | 0.94   |             |                              |                  |
|  | Coll. w/ Parked Car                     | 0                 | 0            | 0             | 0  | 0%          | 0.00                  | 0.12               | 0.57               | 0.65   |             |                              |                  |
|  | Coll. w/ Pedestrian<br>Coll. w/ Bicycle | 1                 | 1            | 0             | 2  | 0%          | 0.67                  | 0.74 0.14          | 1.80<br>0.49       | 2.00<br>0.55   |             |                              |                  |
|  | Fixed Object                            | 0                 | 1            | 1             | 2  | 0%          | 0.67                  | 0.79               | 2.01               | 2.24   |             |                              |                  |
|  | Ran Off Road                            | 0                 | 0            | 0             | 0  | 0%          | 0.00                  | 0.01               | 0.11               | 0.13   |             |                              |                  |
|  | Overtuned                               | 0                 | 0            | 0             | 0  | 0%          | 0.00                  | 0.04               | 0.28               | 0.33   |             |                              |                  |
|  | Other                                   | 0                 | 0            | 1             | 1  | 0%          | 0.33                  | 8.67               | 21.05              | 23.42  |             |                              |                  |
| SEVERITY   | Total Crashes<br>PDO crashes            | 40<br>34          | 41<br>35     | 54<br>52      | 135<br>121   | 23%<br>90%  | 45.00<br>40.33        | 31.51<br>19.21     | 54.94<br>36.95     | 59.43<br>40.35   | X           | x                            |                  |
|  | Fatal crashes                           | 0                 | 1            | 0             | 1  | 1%          | 0.33                  | 0.16               | 0.56               | 0.63   | x           | <u>^</u>                     |                  |
|  | Injury crashes                          | 6                 | 5            | 2             | 13   | 10%         | 4.33                  | 20.77              | 38.34              | 41.71  |             |                              | l — —            |
| LIGHT CONDITIONS   | Day Light                               | 29                | 30           | 37            | 96   | 71%         | 32.00                 | 19.89              | 35.12              | 38.03  | Х           |                              |                  |
|  | Dusk                                    | 1                 | 1            | 1             | 3  | 2%          | 1.00                  | 0.61               | 1.43               | 1.58   | X           |                              |                  |
|  | Dawn                                    | 0                 | 1            | 1             | 2  | 1%          | 0.67                  | 0.38               | 1.03               | 1.16   | X           |                              |                  |
|  | Dark<br>Unknown                         | 10<br>0           | 9            | 14<br>1       | 33   | 24%<br>1%   | 11.00<br>0.33         | 10.22<br>0.41      | 18.94<br>1.15      | 20.61<br>1.30  | Х           |                              | I                |
|  |   | 24                | 35           | 50            | 109  | 81%         | 36.33                 | 26.41              | 45.71              | 49.41  | х           |                              |                  |
| MONTH OF A YEAR  | Wet                                     | 6                 | 6            | 3             | 100  | 11%         | 5.00                  | 4.41               | 8.78               | 9.62   | x           | l I                          | 1                |
|  | Others                                  | 10                | 0            | 1             | 11   | 8%          | 3.67                  | 0.69               | 1.88               | 2.11   | Х           | х                            | х                |
|  | January                                 | 5                 | 3            | 3             | 11   | 8%          | 3.67                  | 2.57               | 5.04               | 5.52   | X           |                              |                  |
|  | February                                | 4                 | 1            | 4             | 9<br>15  | 7%          | 3.00<br>5.00          | 2.37               | 4.59<br>5.92       | 5.02   | X<br>X      |                              | <u> </u>         |
|  | March<br>April                          | 2                 | 2            | 11<br>3       | 15   | 11%<br>7%   | 3.33                  | 3.09<br>2.57       | 5.92               | 6.46<br>5.82   | X           |                              |                  |
|  | May                                     | 5                 | 2            | 3             | 10   | 7%          | 3.33                  | 2.51.              | 4.81               | 5.25   | ^           |                              |                  |
|  | June                                    | 2                 | 4            | 3             | 9  | 7%          | 3.00                  | 2.81               | 5.74               | 6.30   | Х           |                              |                  |
|  | July                                    | 4                 | 3            | 1             | 8  | 6%          | 2.67                  | 2.60               | 4.96               | 5.42   | Х           |                              |                  |
|  | August                                  | 2                 | 9            | 6             | 17   | 13%         | 5.67                  | 3.00               | 5.66               | 6.17   | X           | X                            |                  |
|  | September                               | 4                 | 3            | 5             | 12   | 9%          | 4.00                  | 2.48               | 4.92               | 5.39   | X           |                              |                  |
|  | October<br>November                     | 4                 | 3            | 5<br>4        | 12<br>11   | 9%<br>8%    | 4.00<br>3.67          | 2.89<br>2.41       | 5.40<br>4.85       | 5.88<br>5.32   | X<br>X      |                              |                  |
|  | December                                | 2                 | 3            | 6             | 11   | 8%          | 3.67                  | 2.41               | 4.65               | 5.00   | x           |                              |                  |
| DAY OF THE WEEK  | Sunday                                  | 3                 | 3            | 6             | 12   | 9%          | 4.00                  | 4.00               | 6.58               | 7.08   | X           |                              |                  |
|  | Monday                                  | 8                 | 8            | 6             | 22   | 16%         | 7.33                  | 4.62               | 9.23               | 10.11  | Х           |                              |                  |
|  | Tuesday                                 | 6                 | 3            | 7             | 16   | 12%         | 5.33                  | 4.46               | 7.81               | 8.46   | Х           |                              |                  |
|  | Wednesday                               | 6                 | 5            | 10            | 21   | 16%         | 7.00                  | 4.56               | 8.62               | 9.40   | X           |                              |                  |
|  | Thursday                                | 5                 | 5<br>10      | 8             | 18<br>26   | 13%<br>19%  | 6.00<br>8.67          | 5.04<br>4.86       | 9.04<br>9.39       | 9.80<br>10.26  | X           |                              |                  |
|  | Friday<br>Saturday                      | 0<br>4            | 7            | <b>o</b><br>9 | 20   | 19%         | 6.67                  | 3.98               | 9.39<br>8.10       | 8.89   | X           |                              |                  |
| HOUR OF THE DAY  | 00:00-06:00                             | 2                 | 1            | 4             | 7  | 5%          | 2.33                  | 3.79               | 8.65               | 9.58   | ~           |                              |                  |
|  | 06:00-09:00                             | 4                 | 6            | 8             | 18   | 13%         | 6.00                  | 3.44               | 6.94               | 7.61   | Х           |                              |                  |
|  | 09:00-11:00                             | 5                 | 3            | 4             | 12   | 9%          | 4.00                  | 2.58               | 5.30               | 5.82   | X           |                              |                  |
|  | 11:00-13:00<br>13:00-15:00              | 6                 | 3            | 8             | 17<br>21   | 13%<br>16%  | 5.67<br>7.00          | 3.12<br>3.57       | 5.78<br>6.32       | 6.29<br>6.85   | X           |                              | - v              |
|  | 15:00-18:00                             | 8<br>5            | 9            | 10            | 21   | 18%         | 8.00                  | 6.38               | 11.52              | 12.50  | X<br>X      | X                            | x                |
|  | 18:00-24:00                             | 10                | 12           | 14            | 36   | 27%         | 12.00                 | 8.60               | 15.51              | 16.83  | X           |                              |                  |
|  |   |                   |              |               |  | YEAR<br>2   | 3                     | 3-Year             | ]                  |  |             |                              |                  |
| Average Delle T. M. 1  | DT (Vabiala C                           |                   |              |               | 1  |             |                       | Average            | -                  |  |             |                              |                  |
| Average Daily Traffic A  |   |                   |              |               | 82,183   | 83,861      | 85,572                | 83,872             | 4                  | r  |             |                              |                  |
| Florida Average Crash rate (Crashes per Million Entering Vehicles) |   |                   |              |               | 0.579  | 0.568       | 0.566                 | 0.571              |                    |  |             |                              |                  |
| Traffic Base   |   |                   |              |               | 29.997   | 30.609      | 31.234                | 30.613             | 1                  |  | •           |                              |                  |
| Actual Crash Rate (Cr  | rashes ner Million F                    | nterina V         | ahicles)     |               | 1.333  | 1.339       | 1.729                 | 1.467              | 1                  |  |             |                              |                  |
|  |   | -                 | ,            |               |  |             |                       |                    | -                  |  |             |                              |                  |
| Critical Crash Rate (C   | rashes per Million E                    | ntering V         | ehicles)     |               | 1.053  | 1.033       | 1.025                 | 1.037              | 1                  |  |             |                              |                  |
| Safety Ratio   |   |                   |              |               | 1.267  | 1.297       | 1.687                 | 1.417              |                    |  |             |                              |                  |
| High Crash Location  | ??                                      |                   |              |               | YES  | YES         | YES                   | YES                |                    |  |             |                              |                  |
| Actual Crash i   | $Rate = \frac{A \times 1,00}{V}$        | 0,000             |              |               | al number o<br>rage Annua  |             |                       | f crashes by       | type occurrin      | ng in a 1 year   | period.     |                              |                  |
| <i>TB</i> ↓ <i>TB</i> = Tra  |   |                   |              |               | Average Statewide Crash Rate for a particular type of interse<br>affic Base<br>st Factor (z-value)                             |             |                       |                    |                    | Confidence Level (%) Constant Z  |             |                              |                  |
| $Y_{ears} \times ADT \times 365 = 1.4$                             |   |                   |              |               | st Factor (2-value)<br>96 (assume 95% Confidence Level for RURAL areas)<br>29 (assume 99.95% Confidence Level for URBAN areas) |             |                       |                    |                    | 68:30         1.00           86:60         1.50           90:00         1.64           95:00         1.96           95:50         2.00 |             |                              |                  |
| $Safety Ratio = \frac{Actual Crash Rate}{Critical Crash Rate}$     |   |                   |              |               |  |             |                       |                    |                    | 98.8<br>99.0<br>99.7<br>99.9   | D<br>D<br>D | 2.50<br>2.58<br>3.00<br>3.29 |                  |

# Table 22 – Crash Analysis – SW 137 Avenue and SW 56 Street



## Table 23 – Abnormal Crash Details & Countermeasures SW 137 Avenue and SW 56 Street

|            |  |  | 37 Aven  |   |  |   |   |  |  |   |
|------------|--|--|--|---|--|---|---|--|--|---|
|            | (6 Lane x 4 L  | ane, Signalized, W   | ith Turn La  | anes, 4 Le  | g Interse  | ction -Table  | 935) - URE  | BAN Spot   |  |   |
|            |  |  | NUMB   | R OF CR<br>YEAR   | ASHES  | 3 YEAR<br>TOTAL   | %<br>of   | MEAN<br>Accidents  | Possible   | Counter-  |
|            | -  |  | 2006   | 2007  | 2008   | CRASHE  | Total   | per Year   | Cause(s)   | measure(s)  |
|            | Total Rear Er  |  | 13   | 14  | 28   | 55  | 100%  | 18.33  | (1)  | 2   |
|            | Lighting Conditions  | Day Light  | 10   | 12  | 21   | 43<br>3   | 78%   | 14.33  | (4)<br>(8)   | 4<br>6  |
|            | Lighting Conditions  | Dawn<br>Dark   | 1 2  | 1   | 1<br>6   | 3   | 5%<br>16%   | 1.00<br>3.00   | (8)  | 8   |
|            |  | 00:00 - 06:00  | 1  | 0   | 1  | 2   | 4%  | 0.67   | (12)   | 0   |
|            |  | 06:00 - 09:00  | 1  | 0   | 3  | 4   | 7%  | 1.33   |  |   |
|            | Lieure of Devi   | 09:00 - 11:00  | 2  | 2   | 3  | 7   | 13%   | 2.33   |  |   |
| Rear End   | Hours of Day   | 11:00 - 13:00<br>13:00 - 15:00   | 2  | 0   | 5  | 7<br>10   | 13%<br>18%  | 2.33<br>3.33   |  |   |
|            |  | 15:00 - 18:00  | 2  | 3   | 5  | 10  | 18%   | 3.33   |  |   |
|            |  | 18:00 - 24:00  | 1  | 6   | 8  | 15  | 27%   | 5.00   |  |   |
|            |  | North  | 5  | 1   | 6  | 12  | 22%   | 4.00   |  |   |
|            | Direction  | South<br>East  | 8  | 7   | 9<br>11  | 24<br>14  | 44%<br>25%  | 8.00<br>4.67   |  |   |
|            | Direction  | West   | 0  | 3   | 2  | 5   | 9%  | 1.67   |  |   |
|            |  | Unknown  | 0  | 0   | 0  | 0   | 0%  | 0.00   |  |   |
|            |  |  |  |   |  |   |   |  |  |   |
|            |  |  | NUMB   | R OF CR   | ASHES  | 3 YEAR  | %   | MEAN   | Possible   | Counter-  |
|            |  |  |  | YEAR  |  | TOTAL   | of  | Accidents  |  |   |
|            |  |  | 2006   | 2007  | 2008   | CRASHE  | Total   | per Year   | Cause(s)   | measure(s)  |
|            | Total Right tu   |  | 0  | 2   | 4  | 6   | 100%  | 2.00   | (1)  | 4   |
|            | Lighting Conditions  | Day Light  | 0  | 2   | 2  | 4   | 67%   | 1.33   | (9)  | 9   |
|            | Lighting Conditions  | Dawn<br>Dark   | 0  | 0   | 0  | 0 2   | 0%<br>33%   | 0.00 0.67  | (16)   | 21  |
|            |  | 00:00 - 06:00  | 0  | 0   | 0  | 0   | 0%  | 0.07   |  |   |
|            |  | 06:00 - 09:00  | 0  | 1   | 1  | 2   | 33%   | 0.67   |  |   |
|            |  | 09:00 - 11:00  | 0  | 0   | 0  | 0   | 0%  | 0.00   |  |   |
| Right Turn | Hours of Day   | 11:00 - 13:00  | 0  | 0   | 1<br>0   | 1   | <u>17%</u><br>0%  | 0.33   |  |   |
|            |  | 13:00 - 15:00<br>15:00 - 18:00   | 0  | 1   | 1  | 2   | 33%   | 0.00   |  |   |
|            |  | 18:00 - 24:00  | Ő  | 0   | 1  | 1   | 17%   | 0.33   |  |   |
|            |  | $WB \rightarrow NB$  | 0  | 2   | 1  | 3   | 50%   | 1.00   |  |   |
|            | Direction  | $SB \rightarrow WB$  | 0  | 0   | 1  | 1   | 17%   | 0.33   |  |   |
|            | Direction  | $EB \rightarrow SB$<br>NB $\rightarrow EB$   | 0  | 0   | 2  | 2   | 33%<br>0%   | 0.67   |  |   |
|            |  | Unknown  | 0  | 0   | 0  | 0   | 0%  | 0.00   |  |   |
|            |  |  |  |   |  |   |   |  |  |   |
|            |  |  |  |   |  |   |   |  |  |   |
|            |  |  | NUMB   | B OF CB   | ASHES  | 3 VEAR  | %   | ΜΕΔΝ   |  |   |
|            |  |  | NUMB   | R OF CR<br>YEAR   | ASHES  | 3 YEAR<br>TOTAL   | %<br>of   | MEAN<br>Accidents  | Possible   | Counter-  |
|            |  |  | NUMBE<br>2006  |   | ASHES  | 3 YEAR<br>TOTAL<br>CRASHE   |   | MEAN<br>Accidents<br>per Year  | Possible<br>Cause(s)   | Counter-<br>measure(s)  |
|            | Total Left Tu  |  | 2006<br>9  | YEAR<br>2007<br>7   | 2008<br>4  | TOTAL   | of<br>Total<br>100%   | Accidents<br>per Year<br>6.67  | Cause(s)<br>(4)  | <mark>measure(s)</mark><br>9  |
|            |  | Day Light  | 2006<br>9<br>4   | YEAR<br>2007<br>7<br>2  | 2008<br>4<br>1   | TOTAL<br>CRASHE<br>20<br>7  | of<br>Total<br>100%<br>35%  | Accidents<br>per Year<br>6.67<br>2.33  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13   |
|            | Total Left Tur   | Day Light<br>Dawn  | <b>2006</b><br>9<br>4<br>0   | YEAR<br>2007<br>7<br>2<br>2   | <b>2008</b><br><b>4</b><br>1<br>2  | TOTAL<br>CRASHE<br>20<br>7<br>4   | of<br>Total<br>100%<br>35%<br>20%   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33  | Cause(s)<br>(4)  | measure(s)<br>9<br>13<br>15   |
|            |  | DayLight<br>Dawn<br>Dark   | 2006<br>9<br>4   | YEAR<br>2007<br>7<br>2  | 2008<br>4<br>1   | TOTAL<br>CRASHE<br>20<br>7  | of<br>Total<br>100%<br>35%<br>20%<br>45%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13   |
|            |  | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00  | 2006<br>9<br>4<br>0<br>5<br>0<br>1   | YEAR<br>2007<br>2<br>2<br>3<br>1<br>1   | 2008<br>4<br>1<br>2<br>1<br>2<br>1   | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
|            | Lighting Conditions  | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00   | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1  | YEAR<br>2007<br>7<br>2<br>2<br>3<br>1<br>1<br>0   | 2008<br>4<br>1<br>2<br>1<br>2<br>1<br>0  | <b>TOTAL</b><br><b>CRASHE</b><br>20<br>7<br>4<br>9<br>3<br>3<br>3<br>1  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>15%<br>5%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
| Left Turn  |  | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>0   | YEAR<br>2007<br>7<br>2<br>3<br>1<br>1<br>0<br>0   | 2008<br>4<br>1<br>2<br>1<br>2<br>1<br>0<br>0<br>0  | <b>TOTAL</b><br><b>CRASHE</b><br><b>20</b><br>7<br>4<br>9<br>3<br>3<br>1<br>0   | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>15%<br>5%<br>0%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33<br>0.00  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
| Left Turn  | Lighting Conditions  | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00   | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1  | YEAR<br>2007<br>7<br>2<br>2<br>3<br>1<br>1<br>0   | 2008<br>4<br>1<br>2<br>1<br>2<br>1<br>0  | <b>TOTAL</b><br><b>CRASHE</b><br>20<br>7<br>4<br>9<br>3<br>3<br>3<br>1  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>15%<br>5%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
| Left Turn  | Lighting Conditions  | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00   | 2006<br>9<br>4<br>5<br>0<br>1<br>1<br>1<br>0<br>0<br>6   | YEAR<br>2007<br>7<br>2<br>3<br>1<br>1<br>0<br>0<br>1<br>2<br>2<br>2   | 2008<br>4<br>1<br>2<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>1  | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>0<br>2<br>2<br>9   | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>0%<br>10%<br>10%<br>45%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>3.00  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
| Left Turn  | Lighting Conditions  | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 01:00<br>11:00 - 13:00<br>13:00 - 13:00<br>13:00 - 13:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB  | 2006<br>9<br>4<br>5<br>0<br>1<br>1<br>1<br>0<br>6<br>3   | YEAR<br>2007<br>7<br>2<br>2<br>3<br>1<br>1<br>0<br>0<br>1<br>2<br>2<br>2<br>2<br>2  | 2008<br>4<br>1<br>2<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0   | <b>TOTAL</b><br><b>CRASHE</b><br><b>20</b><br>7<br>4<br>9<br>3<br>3<br>3<br>1<br>1<br>0<br>2<br>2<br>9<br>9<br>5  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>0%<br>10%<br>10%<br>10%<br>45%<br>25%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>3.00<br>1.67  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
| Left Turn  | Lighting Conditions<br>Hours of Day  | $\begin{array}{c} \text{Day Light} \\ \hline \text{Dawn} \\ \text{Dark} \\ 00:00 - 06:00 \\ \hline 06:00 - 09:00 \\ \hline 11:00 - 13:00 \\ \hline 13:00 - 13:00 \\ \hline 15:00 - 15:00 \\ \hline 15:00 - 18:00 \\ \hline 18:00 - 24:00 \\ \hline \text{NB} \rightarrow \text{WB} \\ \hline \text{WB} \rightarrow \text{SB} \end{array}$  | <b>2006</b><br><b>9</b><br>4<br>0<br>5<br>0<br>1<br>1<br>0<br>1<br>0<br>6<br>3<br>3<br>1   | YEAR<br>2007<br>7<br>2<br>3<br>1<br>1<br>0<br>0<br>1<br>2<br>2<br>2<br>0<br>0   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0   | <b>TOTAL</b><br><b>CRASHE</b><br><b>20</b><br>7<br>4<br>9<br>3<br>3<br>3<br>1<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>15%<br>0%<br>0%<br>0%<br>10%<br>10%<br>10%<br>25%<br>5%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33<br>0.00<br>0.67<br>3.00<br>1.67<br>0.33  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
| Left Turn  | Lighting Conditions  | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>13:00 - 24:00<br>NB → WB<br>WB → SB<br>SB → EB  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>0<br>1<br>0<br>1<br>0<br>6<br>3<br>3<br>1<br>1  | YEAR<br>2007<br>7<br>2<br>2<br>3<br>1<br>1<br>0<br>0<br>1<br>2<br>2<br>2<br>2<br>2  | 2008<br>4<br>1<br>2<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0   | <b>TOTAL</b><br><b>CRASHE</b><br><b>20</b><br>7<br>4<br>9<br>3<br>3<br>3<br>1<br>1<br>0<br>2<br>2<br>9<br>9<br>5  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>0%<br>10%<br>10%<br>10%<br>45%<br>25%<br>5%<br>5%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>0.33  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
| Left Turn  | Lighting Conditions<br>Hours of Day  | $\begin{array}{c} \text{Day Light} \\ \hline \text{Dawn} \\ \text{Dark} \\ 00:00 - 06:00 \\ \hline 06:00 - 09:00 \\ \hline 11:00 - 13:00 \\ \hline 13:00 - 13:00 \\ \hline 15:00 - 15:00 \\ \hline 15:00 - 18:00 \\ \hline 18:00 - 24:00 \\ \hline \text{NB} \rightarrow \text{WB} \\ \hline \text{WB} \rightarrow \text{SB} \end{array}$  | <b>2006</b><br><b>9</b><br>4<br>0<br>5<br>0<br>1<br>1<br>0<br>1<br>0<br>6<br>3<br>3<br>1   | YEAR<br>2007<br>7<br>2<br>3<br>1<br>1<br>0<br>0<br>1<br>2<br>2<br>2<br>0<br>0   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0   | <b>TOTAL</b><br><b>CRASHE</b><br><b>20</b><br>7<br>4<br>9<br>3<br>3<br>3<br>1<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>15%<br>0%<br>0%<br>0%<br>10%<br>10%<br>10%<br>25%<br>5%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33<br>0.00<br>0.67<br>3.00<br>1.67<br>0.33  | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
| Left Turn  | Lighting Conditions<br>Hours of Day  | $\begin{array}{c c} Day Light \\ \hline Dawn \\ Dark \\ 00:00 - 06:00 \\ 09:00 - 01:00 \\ 11:00 - 13:00 \\ 13:00 - 13:00 \\ 13:00 - 13:00 \\ 15:00 - 18:00 \\ 18:00 - 24:00 \\ NB \rightarrow WB \\ WB \rightarrow SB \\ SB \rightarrow EB \\ SB \rightarrow EB \\ B \rightarrow NB \end{array}$   | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>4  | YEAR           2007           7           2           3           1           0           0           1           2           2           3           1           0           0           1           2           2           2           0           5   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>4  | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>3<br>1<br>1<br>0<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>13  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>5%<br>0%<br>10%<br>10%<br>10%<br>25%<br>25%<br>5%<br>65%   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>3.000<br>1.67<br>0.33<br>0.33<br>4.33   | Cause(s)<br>(4)<br>(9)   | measure(s)<br>9<br>13<br>15   |
| Left Turn  | Lighting Conditions<br>Hours of Day  | $\begin{array}{c c} Day Light \\ \hline Dawn \\ Dark \\ 00:00 - 06:00 \\ 09:00 - 01:00 \\ 11:00 - 13:00 \\ 13:00 - 13:00 \\ 13:00 - 13:00 \\ 15:00 - 18:00 \\ 18:00 - 24:00 \\ NB \rightarrow WB \\ WB \rightarrow SB \\ SB \rightarrow EB \\ SB \rightarrow EB \\ B \rightarrow NB \end{array}$   | 2006<br>9<br>4<br>0<br>5<br>0<br>0<br>1<br>1<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>1<br>4<br>4<br>0  | YEAR           2007           7           2           3           1           0           0           1           2           2           3           1           0           0           1           2           2           2           0           5   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>4<br>0<br>4<br>0  | <b>TOTAL</b><br><b>CRASHE</b><br><b>20</b><br>7<br>4<br>9<br>3<br>3<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>13<br>0  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>15%<br>15%<br>15%<br>0%<br>10%<br>10%<br>10%<br>25%<br>5%<br>65%<br>0%   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.67<br>0.67<br>0.67<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.00  | Cause(s)<br>(4)<br>(9)<br>(13)   | measure(s)<br>9<br>13<br>15<br>16   |
| Left Turn  | Lighting Conditions<br>Hours of Day  | $\begin{array}{c c} Day Light \\ \hline Dawn \\ Dark \\ 00:00 - 06:00 \\ 09:00 - 01:00 \\ 11:00 - 13:00 \\ 13:00 - 13:00 \\ 13:00 - 13:00 \\ 15:00 - 18:00 \\ 18:00 - 24:00 \\ NB \rightarrow WB \\ WB \rightarrow SB \\ SB \rightarrow EB \\ SB \rightarrow EB \\ B \rightarrow NB \end{array}$   | 2006<br>9<br>4<br>0<br>5<br>0<br>0<br>1<br>1<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>1<br>4<br>4<br>0  | YEAR           2007           7           2           3           1           0           1           2           2           3           1           0           1           2           2           0           1           2           0           5           0   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>4<br>0<br>4<br>0  | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>3<br>1<br>1<br>0<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>13  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>5%<br>0%<br>10%<br>10%<br>10%<br>25%<br>25%<br>5%<br>65%   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.67<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.00<br>MEAN  | Cause(s)<br>(4)<br>(9)<br>(13)<br>Possible                                     | measure(s)<br>9<br>13<br>15<br>16<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 |
| Left Turn  | Lighting Conditions<br>Hours of Day<br>Direction   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>WB → SB<br>EB → NB<br>EB → NB  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>4<br>0<br>8<br>8<br>8<br>9<br>8<br>9<br>8<br>9<br>8<br>9<br>8<br>9<br>8<br>9<br>8<br>9<br>8<br>9<br>8   | YEAR<br>2007<br>7<br>2<br>2<br>3<br>1<br>1<br>0<br>1<br>2<br>2<br>0<br>5<br>0<br>5<br>0<br>ER OF CR<br>YEAR<br>2007   | 2008<br>4<br>1<br>2<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>4<br>0<br>0<br>ASHES<br>2008  | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>3<br>YEAR   | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>15%<br>5%<br>0%<br>10%<br>10%<br>45%<br>25%<br>5%<br>65%<br>0%<br>0%<br>0%   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.00<br>MEAN<br>Accidents<br>per Year   | Cause(s)<br>(4)<br>(9)<br>(13)   | measure(s)<br>9<br>13<br>15<br>16   |
| Left Turn  | Lighting Conditions<br>Hours of Day  | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>WB → SB<br>EB → NB<br>Unknown<br>pe Crashes   | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>4<br>0<br>0<br>8<br>1<br>1<br>1<br>2006<br>10  | YEAR           2007           7           2           3           1           0           1           2           2           0           1           2           0           5           0           5           0           5           0           FR OF CR           YEAR           2007           7  | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>4<br>0<br>ASHES<br>2008<br>13  | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>30   | of<br>Total<br>100%<br>35%<br>35%<br>20%<br>15%<br>15%<br>15%<br>15%<br>15%<br>0%<br>10%<br>10%<br>25%<br>25%<br>65%<br>0%<br>0%<br>0%<br>0%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.67<br>0.67<br>0.67<br>0.67<br>0.67<br>0.33<br>0.33<br>4.33<br>0.00<br>1.67<br>0.33<br>4.33<br>0.00<br>1.67<br>0.33<br>4.33<br>0.00<br>1.67<br>0.33<br>4.33<br>0.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.00<br>1.00<br>1.67<br>1.00<br>1.00<br>1.67<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.00<br>1.0 | Cause(s)<br>(4)<br>(9)<br>(13)<br>Possible<br>Cause(s)<br>(16)                 | Counter-<br>measure(s)  |
| Left Turn  | Lighting Conditions<br>Hours of Day<br>Direction   | Day Light           Dawn           Dark           00:00 - 06:00           06:00 - 09:00           09:00 - 11:00           11:00 - 13:00           13:00 - 15:00           15:00 - 18:00           18:00 - 24:00           NB → WB           WB → SB           SB → EB           EB → NB           Unknown           pe Crashes           Day Light   | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>0<br>0<br>6<br>3<br>3<br>1<br>1<br>4<br>0<br>0<br>8<br><b>NUMBI</b><br>2006<br>10<br>9   | YEAR           2007           7           2           3           1           0           1           2           2           3           0           1           2           2           0           5           0           5           0           5           0           5           0           5           0           7           4   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>0%<br>0%<br>10%<br>10%<br>10%<br>45%<br>25%<br>5%<br>65%<br>0%<br>0%<br>0%<br>0%<br>0%<br>77%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.33<br>4.33<br>0.00<br>1.67<br>0.33<br>0.33<br>0.33<br>4.33<br>0.00<br>1.67<br>0.7<br>1.67<br>0.7<br>1.00<br>0.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.67<br>1.67<br>1.67<br>1.60<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57  | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>(13)<br>(13)<br>(13)<br>(16)<br>(19) | Counter-measure(s)           9           13           15           16   |
| Left Turn  | Lighting Conditions<br>Hours of Day<br>Direction   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>WB → SB<br>EB → NB<br>EB → NB<br>Day Light<br>Dawn  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>4<br>0<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>9<br>0   | YEAR           2007           7           2           3           1           0           1           2           2           3           1           0           1           2           2           0           5           0           5           0           5           0           5           0           5           0           7           4           0   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>ASHES<br>2008<br>13<br>10<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>3<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>30<br>2<br>3<br>0  | of<br>Total<br>100%<br>25%<br>20%<br>45%<br>15%<br>5%<br>15%<br>0%<br>0%<br>10%<br>45%<br>25%<br>5%<br>65%<br>0%<br>0%<br>0%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.00<br>MEAN<br>Accidents<br>per Year<br>10.00<br>7.67<br>0.00  | Cause(s)<br>(4)<br>(9)<br>(13)<br>Possible<br>Cause(s)<br>(16)                 | Counter-<br>measure(s)  |
| Left Turn  | Lighting Conditions<br>Hours of Day<br>Direction   | Day Light           Dark           00:00 - 06:00           06:00 - 09:00           09:00 - 11:00           11:00 - 13:00           13:00 - 15:00           15:00 - 18:00           18:00 - 24:00           NB → WB           WB → SB           SB → EB           EB → NB           Unknown           Day Light           Day           Day | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>0<br>0<br>6<br>3<br>3<br>1<br>1<br>4<br>0<br>0<br>8<br><b>NUMBI</b><br>2006<br>10<br>9   | YEAR           2007           7           2           3           1           0           1           2           2           3           0           1           2           2           0           5           0           5           0           5           0           5           0           5           0           7           4   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>0%<br>0%<br>10%<br>10%<br>10%<br>45%<br>25%<br>5%<br>65%<br>0%<br>0%<br>0%<br>0%<br>0%<br>77%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.33<br>4.33<br>0.00<br>1.67<br>0.33<br>0.33<br>0.33<br>4.33<br>0.00<br>1.67<br>0.7<br>1.67<br>0.7<br>1.00<br>0.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.00<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.60<br>1.67<br>1.67<br>1.67<br>1.60<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57<br>1.57  | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>(13)<br>(13)<br>(13)<br>(16)<br>(19) | Counter-measure(s)           4           19   |
| Left Turn  | Lighting Conditions<br>Hours of Day<br>Direction   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>11:00 - 13:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>SB → EB<br>SB → EB<br>EB → NB<br>Unknown<br>DayLight<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>4<br>0<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>0<br>0<br>1<br>1<br>2  | YEAR           2007           7           2           3           1           0           1           2           2           3           0           1           2           2           0           5           0           5           0           5           0           5           0           5           0           7           4           0           3           1           0   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                               | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>30<br>2<br>3<br>0<br>7<br>7<br>1<br>3<br>3  | of<br>Total<br>100%<br>20%<br>35%<br>20%<br>15%<br>15%<br>5%<br>0%<br>10%<br>45%<br>25%<br>5%<br>65%<br>0%<br>0%<br>0%<br>7%<br>0%<br>0%<br>25%<br>3%<br>100%   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.00<br>MEAN<br>Accidents<br>per Year<br>10.00<br>7.67<br>0.00<br>2.33<br>0.33<br>1.00  | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>(13)<br>(13)<br>(13)<br>(16)<br>(19) | Counter-measure(s)           0           13           15           16   |
|            | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>WB → SB<br>EB → NB<br>Unknown<br>Day Light<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00   | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>1<br>0<br>1<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>4<br>0<br>8<br>8<br>9<br>9<br>0<br>0<br>1<br>1<br>0<br>9<br>9<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>0<br>1<br>1<br>1<br>1  | YEAR           2007           7           2           3           1           0           1           2           2           3           1           0           1           2           0           5           0           5           0           5           0           5           0           5           0           5           0           5           0           3           1           0           3           1           0           0 | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>8<br>7<br>7<br>7<br>1<br>2<br>3<br>0<br>2<br>3<br>0<br>7<br>7<br>1<br>1<br>3<br>3<br>1<br>1<br>1<br>3<br>0<br>1<br>1<br>1<br>1<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>15%<br>5%<br>0%<br>0%<br>0%<br>25%<br>5%<br>65%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>3%  | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.67<br>0.67<br>0.67<br>0.67<br>0.67<br>0.33<br>0.00<br>1.67<br>0.33<br>4.33<br>0.00<br>MEAN<br>Accidents<br>per Year<br>10.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>0.33<br>1.00<br>0.33<br>0.00<br>0.33<br>1.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.03<br>0.00<br>0.00<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00      | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>(13)<br>(13)<br>(13)<br>(16)<br>(19) | Counter-measure(s)           0           13           15           16   |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction   | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>13:00 - 24:00<br>NB → WB<br>WB → SB<br>SB → EB<br>EB → NB<br>Unknown<br>DayLight<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00<br>13:00  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>0<br>0<br>6<br>3<br>3<br>3<br>1<br>1<br>1<br>0<br>0<br>6<br>3<br>3<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>4<br>0<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0   | YEAR           2007           7           2           3           1           0           1           2           2           2           0           1           2           0           5           0           5           0           5           0           5           0           5           0           5           0           5           1           0           0           0           0   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>0<br>4<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                               | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>1<br>0<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>30<br>23<br>0<br>7<br>1<br>1<br>3<br>1<br>4<br>4<br>3<br>1<br>1<br>1<br>1<br>1<br>3<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>5%<br>0%<br>0%<br>0%<br>45%<br>45%<br>65%<br>0%<br>65%<br>0%<br>0%<br>0%<br>77%<br>77%<br>77%<br>0%<br>23%<br>3%<br>10%<br>3%<br>13%                     | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>0.33<br>0.00<br>0.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>0.03<br>3.00<br>1.67<br>3.00<br>0.03<br>3.00<br>1.67<br>3.00<br>0.03<br>3.00<br>0.03<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.03<br>3.03<br>3.3<br>3.  | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>(13)<br>(13)<br>(13)<br>(16)<br>(19) | Counter-<br>measure(s)<br>0<br>13<br>15<br>16<br>16<br>Counter-<br>measure(s)<br>4<br>19                                    |
|            | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>NB → WB<br>WB → SB<br>SB → EB<br>EB → NB<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>4<br>0<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>9<br>0<br>1<br>1<br>0<br>0<br>1<br>2<br>2<br>2<br>2  | YEAR           2007           7           2           3           1           0           1           2           2           3           0           1           2           2           0           5           0           5           0           5           0           5           0           5           0           7           4           0           3           1           0           0           0           0                         | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>30<br>2<br>3<br>0<br>7<br>7<br>1<br>1<br>3<br>1<br>3<br>1<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>0%<br>0%<br>25%<br>5%<br>65%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>25%<br>3%<br>0%<br>0%<br>10%<br>3%<br>3%<br>10%<br>3%<br>17%                   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>10.00<br>7.67<br>0.00<br>2.33<br>0.33<br>1.00<br>0.33<br>1.00<br>0.33<br>1.00   | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>(13)<br>(13)<br>(13)<br>(16)<br>(19) | Counter-<br>measure(s)<br>0<br>13<br>15<br>16<br>16<br>Counter-<br>measure(s)<br>4<br>19                                    |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions | Day Light<br>Day Light<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>WB → SB<br>SB → EB<br>EB → NB<br>Unknown<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>11:00 - 13:00<br>13:00 - 15:00<br>13:00 - 15:00<br>13:00 - 15:00<br>13:00 - 15:00   | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>0<br>0<br>6<br>3<br>3<br>3<br>1<br>1<br>1<br>0<br>0<br>6<br>3<br>3<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>4<br>0<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0   | YEAR           2007           7           2           3           1           0           1           2           2           2           0           1           2           0           5           0           5           0           5           0           5           0           5           0           5           0           5           1           0           0           0           0   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>0<br>4<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                               | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>1<br>0<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>30<br>23<br>0<br>7<br>1<br>1<br>3<br>1<br>4<br>4<br>3<br>1<br>1<br>1<br>1<br>1<br>3<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>5%<br>0%<br>0%<br>0%<br>45%<br>45%<br>65%<br>0%<br>65%<br>0%<br>0%<br>0%<br>77%<br>77%<br>77%<br>77%<br>3%<br>10%<br>3%<br>13%                           | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>0.33<br>0.00<br>0.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>1.67<br>3.00<br>0.03<br>3.00<br>1.67<br>3.00<br>0.03<br>3.00<br>1.67<br>3.00<br>0.03<br>3.00<br>0.03<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.00<br>3.3<br>3.3   | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>(13)<br>(13)<br>(13)<br>(16)<br>(19) | Counter-<br>measure(s)<br>0<br>13<br>15<br>16<br>16<br>Counter-<br>measure(s)<br>4<br>19                                    |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>SB → EB<br>SB → EB<br>EB → NB<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>18:00 - 24:00<br>North   | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>0<br>1<br>0<br>6<br>3<br>3<br>1<br>1<br>4<br>0<br>0<br><b>NUMBE</b><br>2006<br>10<br>9<br>9<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>2<br>206<br>10<br>9<br>2<br>2<br>2<br>2<br>2<br>2<br>2  | YEAR           2007           7           2           3           1           0           1           0           1           2           2           0           1           2           0           5           0           5           0           5           0           7           4           0           3           1           0           0           3           3   | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>7<br>1<br>1<br>3<br>7<br>7<br>1<br>1<br>3<br>0<br>7<br>7<br>1<br>1<br>3<br>0<br>7<br>7<br>1<br>1<br>1<br>3<br>0<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>0%<br>10%<br>45%<br>25%<br>5%<br>65%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>77%<br>25%<br>65%<br>0%<br>0%<br>10%<br>3%<br>3%<br>10%<br>3%<br>3%          | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>0.33<br>0.00<br>0.67<br>0.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.00<br>MEAN<br>Accidents<br>per Year<br>10.00<br>7.67<br>0.00<br>7.67<br>0.00<br>2.33<br>0.33<br>1.00<br>0.33<br>1.00<br>2.33<br>1.00<br>0.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33<br>1.00<br>2.33  | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>Possible<br>Cause(s)<br>(16)<br>(19) | Counter-<br>measure(s)<br>0<br>13<br>15<br>16<br>16<br>Counter-<br>measure(s)<br>4<br>19                                    |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Lighting Conditions<br>Hours of Day  | Day Light<br>Day Light<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>WB → SB<br>EB → NB<br>Unknown<br>Day Light<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>0<br>1<br>1<br>0<br>6<br>3<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>4<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | YEAR           2007           7           2           3           1           0           1           2           3           0           1           2           2           0           1           2           0           5           0           5           0           5           0           5           0           5           0           3           1           0           3           3           3           1                         | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>4<br>0<br>4<br>0<br>2<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>2<br>3<br>1<br>1<br>1<br>3<br>0<br>2<br>3<br>0<br>7<br>7<br>1<br>1<br>3<br>0<br>2<br>3<br>0<br>2<br>3<br>0<br>7<br>7<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>3<br>0<br>7<br>7<br>1<br>1<br>1<br>3<br>0<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>2<br>3<br>1<br>1<br>1<br>1<br>3<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>5%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.67<br>0.67<br>0.67<br>0.67<br>0.67<br>0.33<br>0.00<br>1.67<br>0.33<br>4.33<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>10.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>0.33<br>1.33<br>1.33<br>1.67<br>2.67<br>2.67<br>3.33<br>3.33   | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>Possible<br>Cause(s)<br>(16)<br>(19) | Counter-measure(s)           4           19   |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions | Day Light<br>Day Light<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>18:00 - 24:00<br>NB → WB<br>WB → SB<br>SB → EB<br>EB → NB<br>Unknown<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>15:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>North<br>South<br>East  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>0<br>6<br>3<br>3<br>0<br>1<br>1<br>1<br>0<br>6<br>6<br>3<br>3<br>1<br>1<br>4<br>4<br>0<br>0<br>8<br>9<br>9<br>0<br>0<br>1<br>0<br>0<br>9<br>9<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | YEAR           2007           7           2           3           1           0           1           2           2           2           3           0           1           2           0           5           0           5           0           5           0           5           0           7           4           0           3           1           0           3           3           1           2                                     | 2008<br>4<br>1<br>2<br>1<br>2<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>1<br>0<br>2<br>9<br>9<br>5<br>1<br>1<br>2<br>9<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>3<br>YEAR<br>TOTAL<br>CRASHE<br>30<br>23<br>0<br>7<br>7<br>1<br>1<br>3<br>3<br>1<br>1<br>4<br>5<br>5<br>8<br>8<br>8<br>10<br>6<br>6  | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>0%<br>0%<br>0%<br>25%<br>5%<br>65%<br>0%<br>0%<br>0%<br>0%<br>0%<br>77%<br>0%<br>0%<br>77%<br>0%<br>23%<br>10%<br>33%<br>13%<br>17%<br>27%<br>23%<br>22% | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>0.33<br>0.00<br>0.67<br>3.00<br>1.67<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.00<br>1.67<br>0.33<br>0.33<br>4.33<br>0.00<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>1.33<br>1.00<br>0.67<br>3.00<br>1.67<br>0.33<br>0.33<br>1.33<br>1.33<br>1.67<br>2.67<br>2.67<br>3.33<br>3.33<br>2.00  | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>Possible<br>Cause(s)<br>(16)<br>(19) | Counter-measure(s)           9           13           15           16   |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Lighting Conditions<br>Hours of Day  | Day Light<br>Day Light<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>WB → SB<br>EB → NB<br>Unknown<br>Day Light<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South  | 2006<br>9<br>4<br>0<br>5<br>0<br>1<br>1<br>1<br>0<br>1<br>1<br>0<br>6<br>3<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>4<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | YEAR           2007           7           2           3           1           0           1           2           3           0           1           2           2           0           1           2           0           5           0           5           0           5           0           5           0           5           0           3           1           0           3           3           3           1                         | 2008<br>4<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>4<br>0<br>4<br>0<br>2<br>0<br>4<br>0<br>0<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | TOTAL<br>CRASHE<br>20<br>7<br>4<br>9<br>3<br>3<br>0<br>2<br>2<br>9<br>5<br>1<br>1<br>2<br>2<br>9<br>5<br>1<br>1<br>1<br>3<br>0<br>2<br>3<br>1<br>1<br>1<br>3<br>0<br>2<br>3<br>0<br>7<br>7<br>1<br>1<br>3<br>0<br>2<br>3<br>0<br>2<br>3<br>0<br>7<br>7<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>2<br>9<br>9<br>5<br>5<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>3<br>0<br>0<br>2<br>3<br>0<br>7<br>7<br>1<br>1<br>1<br>3<br>0<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>2<br>1<br>1<br>1<br>1<br>1<br>3<br>0<br>1<br>2<br>3<br>1<br>1<br>1<br>1<br>3<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | of<br>Total<br>100%<br>35%<br>20%<br>45%<br>15%<br>5%<br>5%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | Accidents<br>per Year<br>6.67<br>2.33<br>1.33<br>3.00<br>1.00<br>1.00<br>0.67<br>0.67<br>0.67<br>0.67<br>0.67<br>0.33<br>0.00<br>1.67<br>0.33<br>4.33<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>10.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>7.67<br>0.00<br>0.33<br>1.33<br>1.33<br>1.67<br>2.67<br>2.67<br>3.33<br>3.33   | Cause(s)<br>(4)<br>(9)<br>(13)<br>(13)<br>Possible<br>Cause(s)<br>(16)<br>(19) | Counter-measure(s)           4           19   |



#### 3.9.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 137 Avenue and SW 56 Street were performed on a typical weekday on November 3, 2010. A summary of the traffic data is presented in *Figure 35*, and the field review is presented in *Figure 36*.

This intersection has single left-turn bays for all approaches except the westbound which has double left-turn lanes. The southbound and westbound approaches have exclusive right-turn lanes. The signal operation is protected/permissive for all approaches except the westbound approach which has protected only left-turns.

Long queues were observed for northbound left-turn with vehicles spilling back and blocking the through lane. Also, the driveways for the shopping plaza in the south leg present conflict with the north/south traffic.

The eastbound left-turn movement struggles to cross the opposing westbound through movement. Red light running was observed at the intersection.

It was noticed that the bus stop at the northbound approach is so close to the intersection that it affects the through and right-turn movements.

#### 3.9.4. Recommendations

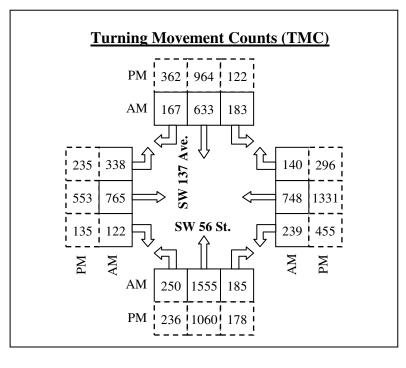
Based on the safety analysis, field observations and traffic operations for the intersection of SW 137 Avenue and SW 56 Street, the following is recommended:

- Add one left turn lane to the northbound approach by converting the striped area on southbound receiving lanes to a full through lane and realigning the southbound.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Reduce the offset between eastbound and westbound left turn lanes by reducing the west leg median width and creating a striped gore.
- Convert the full median opening at south leg (Publix driveway) to a directional median opening.
- Install "Right Turn Only" sign (R3-5R) at the exit of the south leg driveways.
- Install new advance intersection lane control signs for northbound, southbound and westbound approaches.
- Relocate the bus stop on northbound approach away from the intersection.
- Provide ADA approved pedestrian ramps at all corners.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 37.









# Figure 35: Traffic Data – SW 137 Avenue and SW 56 Street

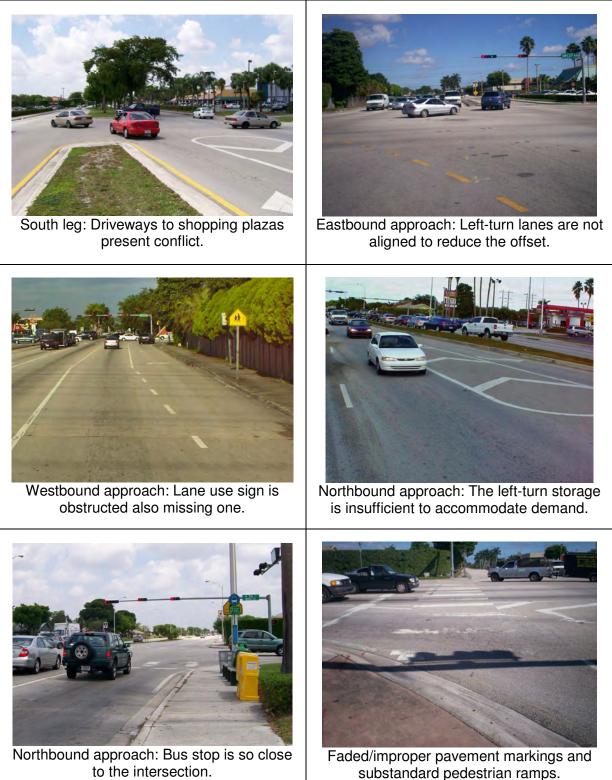
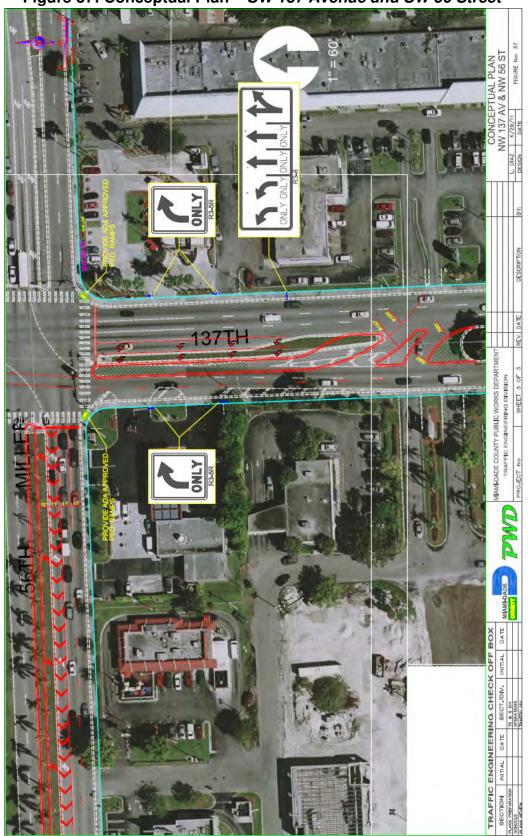


Figure 36: Field Review – SW 137 Avenue and SW 56 Street





## Figure 37: Conceptual Plan – SW 137 Avenue and SW 56 Street



## 3.10. NW 79 Avenue and NW 25 Street

### 3.10.1. Site Description

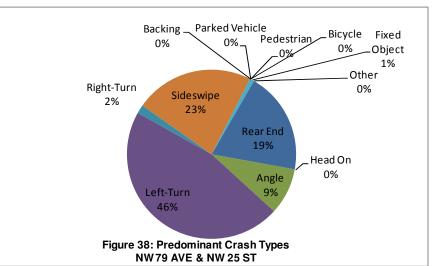
This intersection is a signalized four legged intersection located in the northwest part of Miami Dade County in the City of Doral. NW 79 Avenue is a four lane collector divided by a paved median that runs north-south, and NW 25 Street is a four lane urban arterial divided by a paved median that runs east-west.

#### 3.10.2. Safety Conditions and Analysis

The intersection of NW 79 Avenue and NW 25 Street is ranked number 10 in our high crash locations list. A review of the hard copy police reports for the year 2006 through 2008 was performed. During the three-year analysis period, 123 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 41. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 38*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 24* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 2.251, 2.860, and 2.350, respectively. The safety ratio for the three years averaged 2.487. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that left-turn, sideswipe and fixed object collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 25*.



|                         | (4  | Lane x 4 I       | Lane, Sig    |         |                           |                        | k NW 25 S             |                               | Table 28) - UF     | BAN Spot                             |                  |                                      |                  |
|-------------------------|---|------------------|--------------|---------|---------------------------|------------------------|-----------------------|-------------------------------|--------------------|--------------------------------------|------------------|--------------------------------------|------------------|
|                         |   | NUMBE            | R OF CF      | ASHES   | 3 YEAR                    | %                      | MEAN                  | EXPECTED                      | ANNUAL CF          |                                      | ABNORM           |                                      |                  |
|                         | TYPE OF CRASH   | 2006             | YEAR<br>2007 | 2008    | TOTAL<br>CRASHE           | of<br>Total            | Accidents<br>per Year | MEAN                          | 90th<br>Percentile | 95th<br>Percentile                   | Mean             | 90th<br>Percentil                    | 95th<br>Percenti |
| COLLISION TYPE          | Rear End  | 9                | 9            | 6       | 24                        | 10%                    | 8.00                  | 5.70                          | 16.96              | 19.12                                | Х                |                                      |                  |
|                         | Head On<br>Angle  | 0                | 0            | 0       | 0                         | 0%<br>3%               | 0.00 3.67             | 0.33<br>3.05                  | 1.02<br>7.08       | 1.15<br>7.85                         | x                |                                      |                  |
|                         | Left Turn   | 17               | 24           | 16      | 57                        | 17%                    | 19.00                 | 1.67                          | 4.02               | 4.47                                 | x                | x                                    | x                |
|                         | Right Turn  | 1                | 1            | 0       | 2                         | 1%                     | 0.67                  | 0.33                          | 1.25               | 1.42                                 | X                |                                      |                  |
|                         | Sideswipe<br>Backed Into  | 7                | 9            | 12<br>0 | 28<br>0                   | 7%<br>0%               | 9.33<br>0.00          | 1.60<br>0.17                  | 4.64<br>0.56       | 5.22<br>0.63                         | X                | X                                    | X                |
|                         | Coll. w/ Parked Car   | 0                | 0            | 0       | 0                         | 0%                     | 0.00                  | 0.10                          | 0.50               | 0.59                                 |                  |                                      |                  |
|                         | Coll. w/ Pedestrian   | 0                | 0            | 0       | 0                         | 0%                     | 0.00                  | 0.28                          | 1.04               | 1.19                                 |                  |                                      |                  |
|                         | Coll. w/ Bicycle<br>Fixed Object  | 0                | 0            | 0       | 0                         | 0%<br>0%               | 0.00                  | 0.09                          | 0.33               | 0.38                                 | x                | x                                    | x                |
|                         | Ran Off Road  | 0                | 0            | 0       | 0                         | 0%                     | 0.00                  | 0.00                          | 0.00               | 0.00                                 | ~                |                                      | ^                |
|                         | Overtuned   | 0                | 0            | 0       | 0                         | 0%                     | 0.00                  | 0.03                          | 0.21               | 0.24                                 |                  |                                      |                  |
|                         | Other<br>Total Crashes  | 0<br>37          | 0<br>48      | 0 38    | 0 123                     | 0%<br>23%              | 0.00                  | 3.70<br>17.77                 | 8.83<br>40.96      | 9.82<br>45.39                        | x                | x                                    |                  |
| EVERITY                 | PDO crashes   | 36               | 45           | 37      | 118                       | 96%                    | 39.33                 | 9.93                          | 22.30              | 24.67                                | x                | x                                    | x                |
|                         | Fatal crashes   | 0                | 0            | 0       | 0                         | 0%                     | 0.00                  | 0.05                          | 0.26               | 0.29                                 |                  |                                      |                  |
| IGHT CONDITIONS         | Injury crashes<br>Day Light   | 1<br>34          | 3<br>43      | 1<br>35 | 5<br>112                  | 4%<br>91%              | 1.67<br>37.33         | 13.14<br>12.40                | 33.08<br>29.18     | 36.90<br>32.39                       | x                | x                                    | x                |
|                         | Dusk  | 2                | 43           | 1       | 4                         | 3%                     | 1.33                  | 0.28                          | 0.87               | 0.98                                 | x                | x                                    | x                |
|                         | Dawn  | 0                | 0            | 0       | 0                         | 0%                     | 0.00                  | 0.17                          | 0.56               | 0.63                                 |                  |                                      |                  |
|                         | Dark<br>Unknown   | 1                | 4            | 2<br>0  | 7                         | 6%<br>0%               | 2.33<br>0.00          | 4.56<br>0.35                  | 10.53<br>1.05      | 11.68<br>1.18                        |                  |                                      | I                |
| URFACE CONDITIONS       | Dry   | 28               | 37           | 35      | 100                       | 0%<br>81%              | 33.33                 | 15.30                         | 34.45              | 38.12                                | x                |                                      |                  |
|                         | Wet   | 5                | 9            | 3       | 17                        | 14%                    | 5.67                  | 2.10                          | 6.02               | 6.76                                 | X                |                                      |                  |
| NONTH OF A YEAR         | Others<br>January   | 4                | 2            | 0       | 6<br>11                   | 5%<br>9%               | 2.00<br>3.67          | 0.37                          | 1.10<br>3.33       | 1.24<br>3.69                         | X                | X                                    | X                |
| IONTH OF A TEAN         | February  | 4                | 5            | 4       | 10                        | 9 %<br>8%              | 3.33                  | 1.42                          | 3.53               | 3.93                                 | x                | <u> </u>                             |                  |
|                         | March   | 3                | 6            | 5       | 14                        | 11%                    | 4.67                  | 1.67                          | 4.12               | 4.59                                 | X                | Х                                    | Х                |
|                         | April   | 1                | 3            | 5       | 9<br>12                   | 7%<br>10%              | 3.00<br>4.00          | 1.30                          | 3.21               | 3.57                                 | X                |                                      |                  |
|                         | May<br>June   | 2                | 5            | 5       | 4                         | 3%                     | 1.33                  | 1.74<br>1.38                  | 4.46<br>3.49       | 4.99<br>3.90                         | ^                |                                      |                  |
|                         | July  | 2                | 1            | Ō       | 3                         | 2%                     | 1.00                  | 1.35                          | 3.22               | 3.58                                 |                  |                                      |                  |
|                         | August  | 3                | 5            | 0       | 8                         | 7%                     | 2.67                  | 1.56                          | 3.99               | 4.46                                 | X                |                                      |                  |
|                         | September<br>October  | 4                | 4            | 8       | 9<br>18                   | 7%<br>15%              | 3.00<br>6.00          | 1.46<br>1.47                  | 3.73<br>3.59       | 4.16<br>4.00                         | X                | x                                    | x                |
|                         | November  | 5                | 5            | 5       | 15                        | 12%                    | 5.00                  | 1.39                          | 3.53               | 3.94                                 | X                | X                                    | X                |
|                         | December  | 3                | 3            | 4       | 10                        | 8%                     | 3.33                  | 1.61                          | 4.43               | 4.97                                 | Х                |                                      |                  |
| DAY OF THE WEEK         | Sunday<br>Monday  | 0                | 1            | 0       | 1<br>26                   | 1%<br>21%              | 0.33<br>8.67          | 1.46<br>2.70                  | 3.47<br>6.42       | 3.85<br>7.13                         | x                | x                                    | x                |
|                         | Tuesday   | 7                | 8            | 8       | 23                        | 19%                    | 7.67                  | 2.49                          | 6.18               | 6.88                                 | x                | x                                    | x                |
|                         | Wednesday   | 6                | 6            | 5       | 17                        | 14%                    | 5.67                  | 2.56                          | 5.84               | 6.47                                 | X                |                                      |                  |
|                         | Thursday<br>Friday  | 4                | 4            | 6<br>9  | 14<br>38                  | 11%<br>31%             | 4.67<br>12.67         | 2.88<br>3.07                  | 7.20               | 8.03<br>8.35                         | X                | x                                    | x                |
|                         | Saturday  | 2                | 0            | 2       | 4                         | 3%                     | 1.33                  | 2.61                          | 6.40               | 7.13                                 | ^                | <u>^</u>                             | <u> </u>         |
| HOUR OF THE DAY         | 00:00-06:00   | 1                | 2            | 1       | 4                         | 3%                     | 1.33                  | 1.70                          | 3.39               | 3.71                                 |                  |                                      |                  |
|                         | 06:00-09:00<br>09:00-11:00  | 1                | 3            | 0       | 4                         | 3%<br>15%              | 1.33<br>6.33          | 1.98<br>1.72                  | 5.12<br>4.23       | 5.72<br>4.71                         | x                | x                                    | x                |
|                         | 11:00-13:00   | 4                | 4            | 6       | 14                        | 11%                    | 4.67                  | 2.40                          | 6.30               | 7.05                                 | x                | <u> </u>                             | - ^              |
|                         | 13:00-15:00   | 12               | 7            | 11      | 30                        | 24%                    | 10.00                 | 1.95                          | 5.32               | 5.96                                 | Х                | Х                                    | Х                |
|                         | 15:00-18:00<br>18:00-24:00  | 13<br>3          | 18           | 7       | 38<br>14                  | 31%<br>11%             | 12.67<br>4.67         | 3.58<br>4.42                  | 7.81               | 8.62<br>11.82                        | X<br>X           | X                                    | X                |
|                         | 10.00-24.00   | 5                | 1            | 4       | 14                        | 11/0                   | 4.07                  | 4.42                          | 10.00              | 11.02                                | ~                | 1                                    |                  |
|                         |   |                  |              |         |                           | YEAR                   |                       | 3-Year                        |                    |                                      |                  |                                      |                  |
|                         | DT (( ) )   |                  |              |         | 1                         | 2                      | 3                     | Average                       | -                  |                                      |                  |                                      |                  |
| Average Daily Traffic A |   |                  |              |         | 46,594                    | 47,545                 | 48,515                | 47,551                        | 4                  |                                      |                  |                                      |                  |
| -lorida Average Crash   | rate (Crashes per   | Million En       | tering Ve    | hicles) | 0.420                     | 0.424                  | 0.394                 | 0.413                         |                    |                                      |                  |                                      |                  |
| Traffic Base            |   |                  |              |         | 17.007                    | 17.354                 | 17.708                | 17.356                        |                    |                                      |                  |                                      |                  |
| Actual Crash Rate (Cr   | ashes per Million E   | ntering V        | ehicles)     |         | 2.176                     | 2.766                  | 2.146                 | 2.362                         | 1                  |                                      |                  |                                      |                  |
| Critical Crash Rate (C  | rashes per Million I  | Entering V       | (ehicles)    |         | 0.966                     | 0.967                  | 0.913                 | 0.949                         | 1                  |                                      |                  |                                      |                  |
| Safety Ratio            | · ·   | -                | ,            |         | 2.251                     | 2.860                  | 2.350                 | 2.487                         |                    |                                      |                  |                                      |                  |
| High Crash Location     | ??  |                  |              |         | YES                       | YES                    | YES                   | YES                           |                    |                                      |                  |                                      |                  |
| Actual Crash I          | $Rate = \frac{A \times 1,00}{V}$  | 0,000            |              |         | al number o<br>rage Annua |                        |                       | f crashes by                  | v type occurrin    | ng in a 1 year                       | period.          |                                      |                  |
| CriticalCrashRo         | $Rate = AVR + \frac{0.5}{TB} + TF \sqrt{\frac{AVR}{TB}}$ $\frac{Where:}{AVR} = Average Statewide Crash Rate}{TB} = Traffic Base}{TF = Test Factor (z-value)}$ |                  |              |         |                           |                        |                       | a particular                  | type of interse    | ection or road                       | , ,              | ent.<br>Constant Z                   | ٦                |
|                         | $\frac{Years \times ADT \times 3}{1,000,000}$   |                  |              | = 1.    | 96 (assume                | ə 95% <sup>°</sup> Cor |                       | el for RURAL<br>Level for URE | ,                  | 68.3<br>86.6<br>90.0<br>95.0<br>95.5 | 0<br>0<br>0<br>0 | 1.00<br>1.50<br>1.64<br>1.96<br>2.00 |                  |
| Safety Ratio            | $= \frac{Actual Crass}{Critical Crass}$   | h Rate<br>h Rate | -            |         |                           |                        |                       |                               |                    | 98.8<br>99.0<br>99.7<br>99.9         | 0<br>0           | 2.50<br>2.58<br>3.00<br>3.29         |                  |

# Table 24 – Crash Analysis – NW 79 Avenue and NW 25 Street



# Table 25 – Abnormal Crash Details & CountermeasuresNW 79 Avenue and NW 25 Street

|            |                                     | NW  | 79 Aver  | nue & N  | W 25 S   | treet  |  |   |                         |                                    |
|------------|-------------------------------------|---|--|--|--|--|--|---|-------------------------|------------------------------------|
|            | (4 Lane x 4 Lane                    | e, Signalized, With   | Turn Lanes   | s, 4 Leg li  | ntersectio   | n, Divided -Ta   | able 28) -   | URBAN Spo   | t                       |                                    |
|            |                                     |   |  |  |  |  |  |   |                         |                                    |
|            |                                     |   | NUMBE  | R OF CF  | ASHES  | 3 YEAR   | %  | MEAN  | Possible                | Counter-                           |
|            |                                     |   |  | YEAR   |  | TOTAL  | of   | Accidents   | Cause(s)                | measure(s)                         |
|            |                                     |   | 2006   | 2007   | 2008   | CRASHES  | Total  | per Year  | Cause(s)                | measure(s)                         |
|            | Total Left Tu                       |   | 17   | 24   | 16   | 57   | 100%   | 19.00   | (8)                     | 13                                 |
|            |                                     | Day Light   | 16   | 24   | 15   | 55   | 96%  | 18.33   | (9)                     |                                    |
|            | Lighting Conditions                 | Dawn  | 0  | 0  | 0  | 0  | 0%   | 0.00  | (13)                    |                                    |
|            |                                     | Dark  | 1  | 0  | 1  | 2  | 4%   | 0.67  |                         |                                    |
|            |                                     | 00:00 - 06:00   | 0  | 1  | 1  | 2  | 4%   | 0.67  |                         |                                    |
|            |                                     | 06:00 - 09:00   | 0  | 0  | 0  | 0  | 0%   | 0.00  |                         |                                    |
|            | Turn Hours of Day                   | 09:00 - 11:00   | 1  | 5  | 3  | 9  | 16%  | 3.00  |                         |                                    |
| Left Turn  |                                     | 11:00 - 13:00   | 0  | 3  | 3  | 6  | 11%  | 2.00  |                         |                                    |
|            |                                     | 13:00 - 15:00   | 7  | 4  | 4  | 15   | 26%  | 5.00  |                         |                                    |
|            |                                     | 15:00 - 18:00   | 6  | 9  | 2  | 17   | 30%  | 5.67  |                         |                                    |
|            |                                     | 18:00 - 24:00   | 3  | 2  | 3  | 8  | 14%  | 2.67  |                         |                                    |
|            |                                     | $NB \rightarrow WB$   | 0  | 1  | 0  | 1  | 2%   | 0.33  |                         |                                    |
|            | Divertier                           | $WB \rightarrow SB$   | 17   | 23   | 16   | 56   | 98%  | 18.67   |                         |                                    |
|            | Direction                           | $\begin{array}{c} SB \to EB \\ EB \to NB \end{array} $  | 0  | 0  | 0  | 0  | 0%<br>0%   | 0.00  |                         |                                    |
|            |                                     |   |  | 0  |  | 0  |  | 0.00  |                         |                                    |
|            |                                     |   |  | -  |  | -  |  |   |                         |                                    |
|            |                                     | Unknown   | 0  | 0  | 0  | 0  | 0%   | 0.00  |                         |                                    |
|            |                                     |   | 0  | -  | 0  | 0<br>3 YEAR  | 0%   | 0.00  | Possible                | Counter-                           |
|            | 1                                   |   | 0<br>NUMBE   | 0<br>R OF CF<br>YEAR   | 0<br>ASHES   | 0<br>3 YEAR<br>TOTAL   | 0%<br>%<br>of  | 0.00<br>MEAN<br>Accidents   | Possible<br>Cause(s)    | Counter-<br>measure(s)             |
|            | Total SideSw                        | Unknown   | 0  | R OF CF  | 0  | 0<br>3 YEAR<br>TOTAL<br>CRASHES  | 0%<br>of<br>Total  | 0.00<br>MEAN<br>Accidents<br>per Year   | Cause(s)                |                                    |
|            | Total SideSw                        | Unknown<br>ipe Crashes  | 0<br>NUMBE<br>2006   | 0<br>ER OF CF<br>YEAR<br>2007  | 0<br>ASHES<br>2008   | 0<br>3 YEAR<br>TOTAL   | 0%<br>%<br>of  | 0.00<br>MEAN<br>Accidents   | Cause(s)<br>(8)         | measure(s)                         |
|            | Total SideSw                        | Unknown   | 0<br>NUMBE<br>2006<br>7  | 0<br>R OF CF<br>YEAR<br>2007<br>9  | 0<br>ASHES<br>2008<br>12   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28  | 0%<br>of<br>Total<br>100%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33   | Cause(s)<br>(8)<br>(19) | measure(s)<br>4                    |
|            |                                     | Unknown<br>ipe Crashes<br>Day Light   | 0<br>NUMBE<br>2006<br>7<br>7   | 0<br>FR OF CF<br>YEAR<br>2007<br>9<br>8  | 0<br>ASHES<br>2008<br>12<br>12   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27  | 0%<br>of<br>Total<br>100%<br>96%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00   | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
|            |                                     | Unknown<br>ipe Crashes<br>Day Light<br>Dawn   | 0<br>NUMBE<br>2006<br>7<br>7<br>0  | 0<br>TR OF CF<br>YEAR<br>2007<br>9<br>8<br>0   | 0<br>ASHES<br>2008<br>12<br>12<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>27<br>0   | 0%<br>of<br>Total<br>100%<br>96%<br>0%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.00   | Cause(s)<br>(8)<br>(19) | <mark>measure(s)</mark><br>4<br>19 |
|            |                                     | Unknown<br>ipe Crashes<br>Day Light<br>Dawn<br>Dark   | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0   | 0<br>ER OF CF<br>YEAR<br>2007<br>9<br>8<br>0<br>1  | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1  | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%<br>0%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.00<br>0.33<br>0.00   | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
|            |                                     | Unknown<br>ipe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00  | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0<br>0<br>0   | 0<br>YEAR<br>2007<br>9<br>8<br>0<br>1<br>0   | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1<br>1<br>0  | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.00<br>0.33   | (8)<br>(19)<br>(20)     | <mark>measure(s)</mark><br>4<br>19 |
| Cide Ourie |                                     | Unknown<br>ipe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00   | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0<br>0<br>1   | 0<br><b>P OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>9</b><br>8<br>0<br>1<br>0<br>0<br>0  | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0<br>0<br>0   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1<br>0<br>1  | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%<br>0%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.00<br>0.33<br>0.00<br>0.33   | (8)<br>(19)<br>(20)     | <mark>measure(s)</mark><br>4<br>19 |
| SideSwipe  | Lighting Conditions                 | Unknown<br>ipe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00  | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0<br>0<br>1<br>0  | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>9</b><br>8<br>0<br>1<br>0<br>0<br>2  | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0<br>0<br>0<br>0<br>2   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1<br>1<br>0<br>1<br>4  | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%<br>0%<br>4%<br>14%                                  | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.00<br>0.33<br>0.33<br>0.33<br>1.33   | (8)<br>(19)<br>(20)     | <mark>measure(s)</mark><br>4<br>19 |
| SideSwipe  | Lighting Conditions                 | Unknown<br>ipe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00   | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0<br>0<br>1<br>0<br>4   | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>9</b><br>8<br>0<br>1<br>0<br>0<br>2<br>1   | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>3   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1<br>1<br>0<br>1<br>4<br>8   | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%<br>0%<br>4%<br>14%<br>29%                           | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.00<br>0.33<br>0.00<br>0.33<br>1.33<br>2.67   | (8)<br>(19)<br>(20)     | <mark>measure(s)</mark><br>4<br>19 |
| SideSwipe  | Lighting Conditions                 | Unknown<br>ipe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00   | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0<br>0<br>1<br>0<br>4<br>1  | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>9</b><br>8<br>0<br>1<br>0<br>0<br>2<br>1<br>1<br>1   | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0<br>0<br>0<br>0<br>2<br>3<br>3<br>4  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1<br>1<br>0<br>1<br>4<br>8<br>6                                    | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%<br>0%<br>4%<br>0%<br>14%<br>29%<br>21%              | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>0.00<br>0.33<br>0.00<br>0.33<br>1.33<br>2.67<br>2.00   | (8)<br>(19)<br>(20)     | <mark>measure(s)</mark><br>4<br>19 |
| SideSwipe  | Lighting Conditions                 | Unknown<br>ipe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00                                   | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0<br>0<br>1<br>0<br>4<br>1<br>1   | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>9</b><br>8<br>0<br>1<br>0<br>0<br>2<br>1<br>1<br>3   | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1<br>1<br>0<br>1<br>1<br>4<br>8<br>6<br>6<br>6                     | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%<br>0%<br>4%<br>0%<br>29%<br>21%                     | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.00<br>0.33<br>0.00<br>0.33<br>1.33<br>2.67<br>2.00<br>2.00                                 | (8)<br>(19)<br>(20)     | <mark>measure(s)</mark><br>4<br>19 |
| SideSwipe  | Lighting Conditions                 | Unknown<br>ipe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>13:00 - 18:00<br>18:00 - 24:00                  | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0<br>0<br>1<br>0<br>4<br>1<br>1<br>0  | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>9</b><br>8<br>0<br>1<br>0<br>0<br>2<br>1<br>1<br>3<br>2                                    | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0<br>0<br>0<br>0<br>2<br>3<br>4<br>2<br>1   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1<br>1<br>0<br>1<br>4<br>8<br>6<br>6<br>6<br>6<br>3                | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%<br>0%<br>4%<br>0%<br>4%<br>21%<br>21%<br>21%<br>11% | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.33<br>0.00<br>0.33<br>1.33<br>2.67<br>2.00<br>2.00<br>1.00                                 | (8)<br>(19)<br>(20)     | <mark>measure(s)</mark><br>4<br>19 |
| SideSwipe  | Lighting Conditions                 | Unknown<br>ipe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North         | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0<br>0<br>1<br>0<br>4<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>9</b><br>8<br>0<br>1<br>1<br>0<br>0<br>2<br>1<br>1<br>3<br>2<br>1<br>1                     | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0<br>0<br>0<br>0<br>2<br>3<br>4<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>3<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1<br>1<br>0<br>1<br>4<br>8<br>6<br>6<br>6<br>3<br>3<br>1           | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%<br>0%<br>4%<br>29%<br>21%<br>21%<br>11%<br>4%       | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.00<br>0.33<br>0.00<br>0.33<br>1.33<br>2.67<br>2.00<br>2.00<br>1.00<br>0.33                 | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
| SideSwipe  | Lighting Conditions<br>Hours of Day | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>13:00 - 15:00<br>13:00 - 24:00<br>North<br>South | 0<br>NUMBE<br>2006<br>7<br>7<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>4<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>9</b><br>8<br>0<br>1<br>0<br>2<br>1<br>1<br>3<br>2<br>1<br>1<br>1<br>3<br>2<br>1<br>1<br>1 | 0<br>ASHES<br>2008<br>12<br>12<br>0<br>0<br>0<br>0<br>2<br>3<br>4<br>2<br>1<br>0<br>2<br>1<br>0<br>2<br>1<br>0<br>0<br>2<br>3<br>4<br>2<br>1<br>2<br>0<br>0<br>0<br>0<br>2<br>3<br>4<br>2<br>1<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>28<br>27<br>0<br>1<br>1<br>0<br>1<br>1<br>4<br>8<br>6<br>6<br>6<br>3<br>1<br>1<br>3 | 0%<br>of<br>Total<br>100%<br>96%<br>0%<br>4%<br>14%<br>29%<br>21%<br>21%<br>21%<br>4%<br>11%     | 0.00<br>MEAN<br>Accidents<br>per Year<br>9.33<br>9.00<br>0.00<br>0.33<br>0.00<br>0.33<br>1.33<br>2.67<br>2.00<br>2.00<br>2.00<br>1.00<br>0.33<br>1.00 | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |

### 3.10.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at NW 79 Avenue and NW 25 Street were performed on a typical weekday on October 28, 2010. A summary of the traffic data is presented in *Figure 39*, and the field review is presented in *Figure 40*.

This intersection has single left-turn bays for northbound, eastbound and westbound approaches; the southbound approach has double left-turn lanes. The signal operation is split phases for northbound and southbound traffic, and protected/permissive for eastbound and westbound left-turn traffic.

Long queues were observed for eastbound left-turn with vehicles spilling back and blocking the through lane. Also, heavy traffic and long queues were observed for eastbound approach.



Traffic turning left into the driveways in the south side of NW 25 Street east and west of NW 79 Avenue present conflict with the east/west traffic. The westbound left-turn movement struggles to cross the opposing eastbound through movement.

Considerable amount of weaving was observed in both east/west directions. Also, weaving and lane changes were noticed at southbound approach.

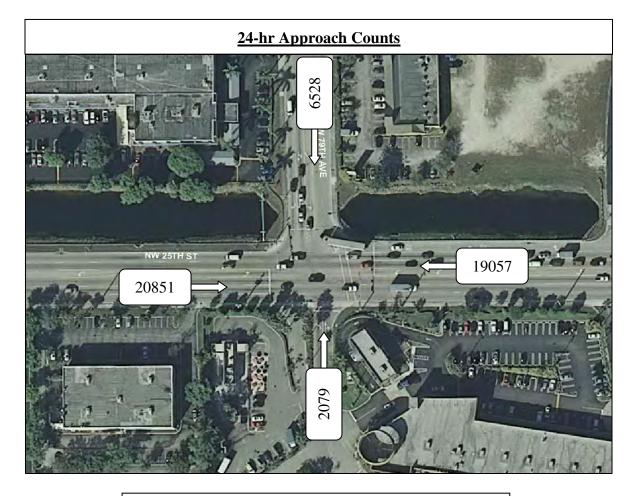
#### 3.10.4. Recommendations

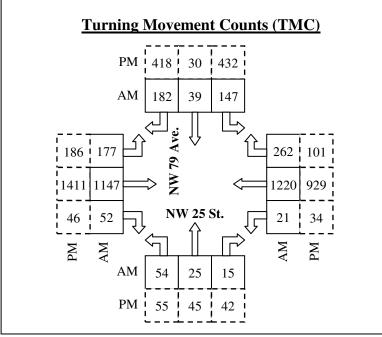
Based on the safety analysis, field observations and traffic operations for the intersection of NW 79 Avenue and NW 25 Street, the following is recommended:

- Lengthen the eastbound left-turn lane to approximately 350 ft.
- Closing the median opening east and west of the intersection .
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Installing lane use (R3-8) signs for southbound approach.
- Provide ADA approved pedestrian ramps at all corners.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 41.







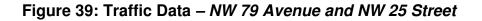








Figure 40: Field Review – NW 79 Avenue and NW 25 Street





Figure 41: Conceptual Plan – NW 79 Avenue and NW 25 Street



## 3.11. NW 67 Avenue and NW 169 Street

### 3.11.1. Site Description

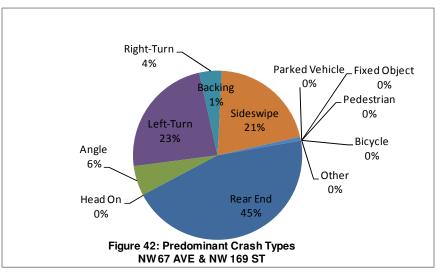
This intersection is a signalized four legged intersection located in the unincorporated area of northwest Miami Dade County. NW 67 Avenue is a six lane urban arterial divided by a raised median that runs north-south, and NW 169 Street is a four lane collector divided by a raised median that runs east-west.

#### 3.11.2. Safety Conditions and Analysis

The intersection of NW 67 Avenue and NW 169 Street is ranked number 11 in our high crash locations list. A review of the hard copy police reports for the year 2006 through 2008 was performed. During the three-year analysis period, 140 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 47. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 42*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 26* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.469, 1.810, and 1.483, respectively. The safety ratio for the three years averaged 1.587. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that rear end, left-turn, right-turn and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 27*.



|                         |  | (6 Lane                   | x 4 Lane,       | , Signaliz | ed, With Tu                               | irn Lanes,           | 4 Leg Inters                 | ection -Table | e 35) - URBAN   | N Spot                                    |             |                                      |                 |
|-------------------------|--|---------------------------|-----------------|------------|---|----------------------|------------------------------|---------------|-----------------|---|-------------|--------------------------------------|-----------------|
|                         | TYPE OF CRASH                                  | NUMBE                     | R OF CF<br>YEAR | RASHES     | 3 YEAR<br>TOTAL                           | %<br>of              | MEAN<br>Accidents            |               | ANNUAL CF       | ASH VALUE<br>95th                         |             | ALLY HIGH<br>90th                    | CRASHES<br>95th |
|                         |  | 2006                      | 2007            | 2008       | CRASHE                                    | Total                | per Year                     | MEAN          | Percentile      |   | Mean        | Percentil                            |                 |
| COLLISION TYPE          | Rear End                                       | 20                        | 25              | 18         | 63  | 23%                  | 21.00                        | 8.68          | 17.26           | 18.90                                     | Х           | Х                                    | X               |
|                         | Head On<br>Angle                               | 0                         | 0               | 0          | 0   | 0%<br>2%             | 0.00 2.67                    | 0.60 5.40     | 1.64<br>9.19    | 1.84<br>9.92                              |             |                                      |                 |
|                         | Left Turn                                      | 7                         | 12              | 14         | 33  | 9%                   | 11.00                        | 3.00          | 6.13            | 6.73                                      | х           | x                                    | x               |
|                         | Right Turn                                     | 3                         | 1               | 2          | 6   | 1%                   | 2.00                         | 0.46          | 1.36            | 1.53                                      | X           | x                                    | x               |
|                         | Sideswipe                                      | 11                        | 8               | 10         | 29  | 7%                   | 9.67                         | 2.58          | 4.92            | 5.37                                      | Х           | Х                                    | Х               |
|                         | Backed Into                                    | 0                         | 1               | 0          | 1   | 0%                   | 0.33                         | 0.28          | 0.84            | 0.94                                      | X           |                                      |                 |
|                         | Coll. w/ Parked Car<br>Coll. w/ Pedestrian     | 0                         | 0               | 0          | 0   | 0%<br>0%             | 0.00                         | 0.12          | 0.57            | 0.65                                      |             |                                      |                 |
|                         | Coll. w/ Bicycle                               | 0                         | 0               | 0          | 0   | 0%                   | 0.00                         | 0.14          | 0.49            | 0.55                                      |             |                                      |                 |
|                         | Fixed Object                                   | 0                         | 0               | 0          | 0   | 0%                   | 0.00                         | 0.79          | 2.01            | 2.24                                      |             |                                      |                 |
|                         | Ran Off Road                                   | 0                         | 0               | 0          | 0   | 0%                   | 0.00                         | 0.01          | 0.11            | 0.13                                      |             |                                      |                 |
|                         | Overtuned                                      | 0                         | 0               | 0          | 0   | 0%                   | 0.00                         | 0.04          | 0.28            | 0.33                                      |             |                                      |                 |
|                         | Other<br>Total Crashes                         | 0<br>43                   | 0<br>53         | 0<br>44    | 0   | 0%<br>24%            | 0.00 46.67                   | 8.67<br>31.51 | 21.05<br>54.94  | 23.42<br>59.43                            | x           |                                      |                 |
| SEVERITY                | PDO crashes                                    | 41                        | 49              | 40         | 130                                       | 93%                  | 43.33                        | 19.21         | 36.95           | 40.35                                     | - Â         | x                                    | x               |
|                         | Fatal crashes                                  | 0                         | 0               | 0          | 0   | 0%                   | 0.00                         | 0.16          | 0.56            | 0.63                                      |             |                                      |                 |
|                         | Injury crashes                                 | 2                         | 4               | 4          | 10  | 7%                   | 3.33                         | 20.77         | 38.34           | 41.71                                     |             |                                      |                 |
| LIGHT CONDITIONS        | Day Light                                      | 30                        | 39              | 28         | 97  | 69%                  | 32.33                        | 19.89         | 35.12           | 38.03                                     | X           |                                      |                 |
|                         | Dusk<br>Dawn                                   | 2                         | 0               | 2          | 4 8                                       | 3%<br>6%             | 1.33<br>2.67                 | 0.61          | 1.43            | 1.58<br>1.16                              | X           | x                                    | x               |
|                         | Dawn<br>Dark                                   | 10                        | 11              | 10         | 31  | 22%                  | 10.33                        | 10.22         | 18.94           | 20.61                                     | x           | <b></b>                              | ⊢ ^             |
|                         | Unknown  | 0                         | 0               | 0          | 0   | 0%                   | 0.00                         | 0.41          | 1.15            | 1.30                                      |             |                                      |                 |
| SURFACE CONDITIONS      | Dry  | 29                        | 30              | 23         | 82  | 59%                  | 27.33                        | 26.41         | 45.71           | 49.41                                     | X           |                                      |                 |
|                         | Wet  | 4                         | 5               | 7          | 16  | 11%                  | 5.33                         | 4.41          | 8.78            | 9.62                                      | X           |                                      |                 |
| MONTH OF A YEAR         | Others<br>January                              | 10<br>4                   | 18<br>4         | 14<br>3    | 42  | 30%<br>8%            | 14.00<br>3.67                | 0.69<br>2.57  | 1.88<br>5.04    | 2.11<br>5.52                              | X           | X                                    | X               |
| INCITING A TEAN         | February                                       | 3                         | 6               | 2          | 11  | 8%                   | 3.67                         | 2.37          | 4.59            | 5.02                                      | x           |                                      | <u> </u>        |
|                         | March  | 5                         | 2               | 5          | 12  | 9%                   | 4.00                         | 3.09          | 5.92            | 6.46                                      | Х           |                                      |                 |
|                         | April  | 6                         | 5               | 4          | 15  | 11%                  | 5.00                         | 2.57          | 5.30            | 5.82                                      | Х           |                                      |                 |
|                         | May  | 1                         | 5               | 3          | 9   | 6%                   | 3.00                         | 2.51.         | 4.81            | 5.25                                      | v           |                                      |                 |
|                         | June<br>July                                   | 3                         | 4               | 5<br>2     | 15<br>7                                   | 11%<br>5%            | 5.00<br>2.33                 | 2.81<br>2.60  | 5.74<br>4.96    | 6.30<br>5.42                              | х           |                                      |                 |
|                         | August   | 4                         | 5               | 6          | 15  | 11%                  | 5.00                         | 3.00          | 5.66            | 6.17                                      | Х           |                                      |                 |
|                         | September                                      | 1                         | 2               | 2          | 5   | 4%                   | 1.67                         | 2.48          | 4.92            | 5.39                                      |             |                                      |                 |
|                         | October  | 8                         | 2               | 5          | 15  | 11%                  | 5.00                         | 2.89          | 5.40            | 5.88                                      | X           |                                      |                 |
|                         | November<br>December                           | 2                         | 6<br>5          | 4          | 12<br>13                                  | 9%<br>9%             | 4.00                         | 2.41<br>2.22  | 4.85<br>4.55    | 5.32<br>5.00                              | <u>x</u>    |                                      |                 |
| DAY OF THE WEEK         | Sunday   | 3                         | 5<br>7          | 3          | 13  | 9%<br>9%             | 4.33                         | 4.00          | 6.58            | 7.08                                      | x           |                                      |                 |
|                         | Monday   | 3                         | 3               | 5          | 11  | 8%                   | 3.67                         | 4.62          | 9.23            | 10.11                                     | ~           |                                      |                 |
|                         | Tuesday  | 6                         | 9               | 5          | 20  | 14%                  | 6.67                         | 4.46          | 7.81            | 8.46                                      | Х           |                                      |                 |
|                         | Wednesday                                      | 8                         | 7               | 11         | 26  | 19%                  | 8.67                         | 4.56          | 8.62            | 9.40                                      | X           | X                                    |                 |
|                         | Thursday<br>Friday                             | 10<br>5                   | 6<br>10         | 7          | 23<br>23                                  | 16%<br>16%           | 7.67                         | 5.04<br>4.86  | 9.04<br>9.39    | 9.80<br>10.26                             | X           |                                      |                 |
|                         | Saturday                                       | 8                         | 11              | 5          | 23  | 17%                  | 8.00                         | 3.98          | 8.10            | 8.89                                      | - Â         |                                      |                 |
| HOUR OF THE DAY         | 00:00-06:00                                    | 2                         | 0               | 0          | 2   | 1%                   | 0.67                         | 3.79          | 8.65            | 9.58                                      |             |                                      |                 |
|                         | 06:00-09:00                                    | 9                         | 8               | 8          | 25  | 18%                  | 8.33                         | 3.44          | 6.94            | 7.61                                      | X           | X                                    | Х               |
|                         | 09:00-11:00                                    | 3                         | 4               | 1          | 8   | 6%                   | 2.67                         | 2.58          | 5.30            | 5.82                                      | X           | x                                    |                 |
|                         | 11:00-13:00<br>13:00-15:00                     | 76                        | 6<br>9          | 5<br>3     | 18<br>18                                  | 13%<br>13%           | 6.00<br>6.00                 | 3.12<br>3.57  | 5.78<br>6.32    | 6.29<br>6.85                              | X           | ×                                    |                 |
|                         | 15:00-18:00                                    | 7                         | 8               | 10         | 25  | 18%                  | 8.33                         | 6.38          | 11.52           | 12.50                                     | X           |                                      |                 |
|                         | 18:00-24:00                                    | 9                         | 18              | 17         | 44  | 31%                  | 14.67                        | 8.60          | 15.51           | 16.83                                     | Х           |                                      |                 |
|                         |  |                           |                 |            |   |                      |                              |               |                 |   |             |                                      |                 |
|                         |  |                           |                 |            | L   | YEAR                 |                              | 3-Year        |                 |   |             |                                      |                 |
|                         |  |                           |                 |            | 1   | 2                    | 3                            | Average       |                 |   |             |                                      |                 |
| Average Daily Traffic A | DT (Vehicles per D                             | Day)                      |                 |            | 74,393                                    | 75,911               | 77,460                       | 75,921        | 1               |   |             |                                      |                 |
| -lorida Average Crash   | rate (Crashes per l                            | Million En                | tering Ve       | hicles)    | 0.579                                     | 0.568                | 0.566                        | 0.571         | 1               |   |             |                                      |                 |
| Traffic Base            |  |                           | <u> </u>        | ,          | 27.153                                    | 27.707               | 28.273                       | 27.711        | 1               |   |             |                                      |                 |
|                         | ashaa nar Miller E                             | ntoric - 1/               | obiol)          |            |   |                      |                              |               | 4               |   |             |                                      |                 |
| Actual Crash Rate (Cr   |  | -                         | ,               |            | 1.584                                     | 1.913                | 1.556                        | 1.684         | 4               |   |             |                                      |                 |
| Critical Crash Rate (C  | rashes per Million E                           | ntering V                 | ehicles)        |            | 1.078                                     | 1.057                | 1.049                        | 1.061         | 4               |   |             |                                      |                 |
| Safety Ratio            |  |                           |                 |            | 1.469                                     | 1.810                | 1.483                        | 1.587         |                 |   |             |                                      |                 |
| High Crash Location     | ??   |                           |                 |            | YES                                       | YES                  | YES                          | YES           | 1               |   |             |                                      |                 |
| Actual Crash            | $Rate = \frac{A \times 1,000}{V}$              | 0,000                     |                 |            | al number o<br>rage Annua                 |                      |                              | f crashes by  | v type occurrin | ng in a 1 year                            | period.     |                                      |                 |
| CriticalCrashRa         | $ate = AVR + \frac{0.5}{TB} + 2$               | $TF\sqrt{\frac{AVH}{TB}}$ | 2               | TB = Tr    | Average Sta<br>affic Base<br>st Factor (z |                      | ash Rate for                 | a particular  | type of interse | Confidence I                              | .evel (%)   | Constant Z                           | ו               |
| Traffic Base =          | $\frac{Years \times ADT \times 36}{1,000,000}$ | 65                        |                 | = 1.       | 96 (assume                                | 95% <sup>(</sup> Cor | nfidence Lev<br>Confidence I |               | ,               | 68.30<br>86.60<br>90.00<br>95.00<br>95.50 | )<br>)<br>) | 1.00<br>1.50<br>1.64<br>1.96<br>2.00 |                 |
| Safety Ratio            | $= \frac{Actual Crash}{Critical Crash}$        | n Rate<br>h Rate          | -               |            |   |                      |                              |               |                 | 98.80<br>99.00<br>99.70<br>99.95          | )<br>)<br>) | 2.50<br>2.58<br>3.00<br>3.29         |                 |

# Table 26 – Crash Analysis – NW 67 Avenue and NW 169 Street



# Table 27 – Abnormal Crash Details & CountermeasuresNW 67 Avenue and NW 169 Street

|            | (6 Lane x 4 L  | <b>NW 6</b><br>ane, Signalized, Wi   | 7 Avenu<br>th Turn La  |   |  |   | ə 35) - URI  | BAN Spot   |  |   |
|------------|--|--|--|---|--|---|--|--|--|---|
|            |  |  |  | R OF CR   | -  | 3 YEAR  | %  | MEAN   |  |   |
|            |  |  | 2006   | YEAR<br>2007  | 2008   | TOTAL   | of<br>Total  | Accidents<br>per Year  | Possible<br>Cause(s)   | Counter-<br>measure(s)                        |
|            | Total Rear Er  |  | 20   | 25  | 18   | 63  | 100%   | 21.00  | (1)  | 2   |
|            | Lighting Conditions  | Day Light  | 15   | 19  | 14   | 48  | 76%  | 16.00  | (3)  | 4   |
|            | Lighting Conditions  | Dawn<br>Dark   | 1<br>4   | 0   | 1  | 2<br>13   | 3%<br>21%  | 0.67<br>4.33   | (7)<br>(12)  | 7   |
|            |  | 00:00 - 06:00  | 0  | 0   | 0  | 0   | 0%   | 0.00   | (12)   |   |
|            |  | 06:00 - 09:00  | 3  | 6   | 3  | 12  | 19%  | 4.00   |  |   |
|            |  | 09:00 - 11:00  | 2  | 2   | 1  | 5   | 8%   | 1.67   |  |   |
| Rear End   | Hours of Day   | 11:00 - 13:00  | 3  | 1   | 1  | 5   | 8%   | 1.67   |  |   |
|            |  | 13:00 - 15:00<br>15:00 - 18:00   | 3<br>5   | 3   | 2  | 8<br>15   | 13%<br>24%   | 2.67<br>5.00   |  |   |
|            |  | 18:00 - 24:00  | 4  | 9   | 5  | 18  | 29%  | 6.00   |  |   |
|            |  | North  | 3  | 9   | 6  | 18  | 29%  | 6.00   |  |   |
|            |  | South  | 14   | 10  | 7  | 31  | 49%  | 10.33  |  |   |
|            | Direction  | East   | 3  | 5   | 3  | 11  | 17%  | 3.67   |  |   |
|            |  | West<br>Unknown  | 0  | 1   | 0  | 1 2   | 2%<br>3%   | 0.33 0.67  |  |   |
|            |  | onalonn  | Ŭ  | Ŭ   | -  | -   | 0,0  | 0.07   |  |   |
|            |  |  | NUMBE  | R OF CR   | ASHES  | 3 YEAR  | %  | MEAN   | Possible   | Counter-                                      |
|            |  |  | 0000   | YEAR  | 0000   | TOTAL   | of   | Accidents  | Cause(s)   | measure(s)                                    |
|            | Total Left Tu  | rn Crashes   | 2006<br>7  | 2007<br>12  | 2008<br>14   | CRASHE<br>33  | Total<br>100%  | per Year<br>11.00  | (9)  | 9   |
|            |  | DayLight   | 3  | 9   | 9  | 21  | 64%  | 7.00   | (13)   | 13  |
|            | Lighting Conditions  | Dawn   | 0  | 0   | 1  | 1   | 3%   | 0.33   | /  | 17  |
|            |  | Dark   | 4  | 3   | 4  | 11  | 33%  | 3.67   |  |   |
|            |  | 00:00 - 06:00  | 0  | 0   | 2  | 2   | 6%   | 0.67   |  |   |
|            |  | 06:00 - 09:00<br>09:00 - 11:00   | 2  | 1   | 0  | 2   | 6%<br>3%   | 0.67   |  |   |
| 1 . A T    | Hours of Day   | 11:00 - 13:00  | 3  | 1   | 3  | 7   | 21%  | 2.33   |  |   |
| Left Turn  |  | 13:00 - 15:00  | 0  | 2   | 1  | 3   | 9%   | 1.00   |  |   |
|            |  | 15:00 - 18:00  | 0  | 3   | 3  | 6   | 18%  | 2.00   |  |   |
|            |  | 18:00 - 24:00<br>NB → WB   | 2  | 5<br>2  | 5  | 12<br>8   | 36%<br>24%   | 4.00<br>2.67   |  |   |
|            |  | $WB \rightarrow SB$  | 0  | 0   | 0  | °<br>0  | 0%   | 0.00   |  |   |
|            | Direction  | $SB \rightarrow EB$  | 2  | 10  | 12   | 24  | 73%  | 8.00   |  |   |
|            |  | $EB \rightarrow NB$  | •  | •   |  |   |  |  |  |   |
|            |  |  | 0  | 0   | 1  | 1   | 3%   | 0.33   |  |   |
|            |  | Unknown  | 0  | 0   | 0  | 0   | 3%<br>0%   | 0.33   |  |   |
|            |  |  | 0  |   | 0  |   |  |  | Dessible   | Counter                                       |
|            |  |  | 0<br>NUMBE   | 0<br>ER OF CR<br>YEAR   | O  | 0   | 0%<br>%<br>of  | 0.00   | Possible<br>Cause(s)   | Counter-                                      |
|            | Tatal Dight T  | Unknown  | 0<br>NUMBE<br>2006   | 0<br>ER OF CR<br>YEAR<br>2007   | 0<br>ASHES<br>2008   | 0<br>3 YEAR<br>TOTAL<br>CRASHE  | 0%<br>%<br>of<br>Total   | 0.00<br>MEAN<br>Accidents<br>per Year  | Cause(s)   | measure(s)                                    |
|            | Total Right Tu   | Unknown<br>um Crashes  | 0<br>NUMBE<br>2006<br>3  | 0<br>FR OF CR<br>YEAR<br>2007<br>1  | 0<br>ASHES<br>2008<br>2  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6   | 0%<br>of<br>Total<br>100%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00  | Cause(s)<br>(8)  | measure(s)<br>9                               |
|            | Total Right Tu   | Unknown  | 0<br>NUMBE<br>2006   | 0<br>ER OF CR<br>YEAR<br>2007   | 0<br>ASHES<br>2008   | 0<br>3 YEAR<br>TOTAL<br>CRASHE  | 0%<br>%<br>of<br>Total   | 0.00<br>MEAN<br>Accidents<br>per Year  | Cause(s)   | measure(s)                                    |
|            |  | Unknown<br>um Crashes<br>Day Light<br>Dawn<br>Dark   | 0<br>NUMBE<br>2006<br>3<br>3   | 0<br>FR OF CR<br>YEAR<br>2007<br>1<br>1<br>0<br>0   | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1   | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%  | 0.00<br>MEAN<br>Accidents<br>ber Year<br>2.00<br>1.67<br>0.00<br>0.33  | (8)<br>(9)   | measure(s)<br>9                               |
|            |  | Unknown<br>Jam Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00   | 0<br>NUMBE<br>2006<br>3<br>3<br>0<br>0<br>0<br>0   | 0<br><b>FR OF CR</b><br><b>YEAR</b><br><b>2007</b><br><b>1</b><br>1<br>0<br>0<br>0  | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>0   | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00  | (8)<br>(9)   | measure(s)<br>9                               |
|            |  | Unknown<br>Jm Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00   | 0<br>NUMBE<br>2006<br>3<br>0<br>0<br>0<br>2  | 0<br>FR OF CR<br>YEAR<br>2007<br>1<br>1<br>0<br>0<br>1<br>1   | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>0<br>3  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00  | (8)<br>(9)   | measure(s)<br>9                               |
|            | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00  | 0<br>NUMBE<br>2006<br>3<br>3<br>0<br>0<br>0<br>0   | 0<br>FR OF CR<br>YEAR<br>2007<br>1<br>1<br>0<br>0<br>1<br>0<br>1<br>0   | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>0   | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>0   | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.00  | (8)<br>(9)   | measure(s)<br>9                               |
| Right Turn |  | Unknown<br>Jm Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00   | 0<br>NUMBE<br>2006<br>3<br>0<br>0<br>0<br>2<br>0   | 0<br>FR OF CR<br>YEAR<br>2007<br>1<br>1<br>0<br>0<br>1<br>1   | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>1<br>0<br>3<br>0  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00  | (8)<br>(9)   | measure(s)<br>9                               |
| Right Turn | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00   | 0<br><b>NUMBE</b><br><b>2006</b><br><b>3</b><br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br><b>R OF CR</b><br><b>2007</b><br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0             | 0<br>ASHES<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0   | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>1<br>0<br>3<br>0<br>1<br>1<br>1<br>0  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>17%<br>17%<br>0%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.33<br>0.33<br>0.00  | (8)<br>(9)   | measure(s)<br>9                               |
| Right Turn | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00  | 0<br><b>NUMBE</b><br><b>2006</b><br><b>3</b><br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br><b>R OF CR</b><br><b>2007</b><br><b>1</b><br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>1  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>0<br>3<br>0<br>1<br>1<br>1<br>0<br>1  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>50%<br>0%<br>17%<br>17%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33  | (8)<br>(9)   | measure(s)<br>9                               |
| Right Turn | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB  | 0<br><b>NUMBE</b><br><b>2006</b><br><b>3</b><br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>2<br>2   | 0<br>YEAR<br>2007<br>1<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                   | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>1<br>0<br>3<br>0<br>1<br>1<br>1<br>0  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>17%<br>17%<br>17%<br>33%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.33<br>0.33<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00  | (8)<br>(9)   | measure(s)<br>9                               |
| Right Turn | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00  | 0<br><b>NUMBE</b><br><b>2006</b><br><b>3</b><br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br><b>R OF CR</b><br><b>2007</b><br><b>1</b><br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>1  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>0<br>3<br>0<br>1<br>1<br>1<br>0<br>1<br>1<br>2  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>50%<br>0%<br>17%<br>17%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33  | (8)<br>(9)   | measure(s)<br>9                               |
| Right Turn | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB  | 0<br><b>NUMBE</b><br>2006<br>3<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                  | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>2   | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>1<br>0<br>3<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0   | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>0%<br>17%<br>17%<br>17%<br>0%<br>67%<br>0%<br>0%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.03<br>0.33<br>0.33<br>0.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0 | (8)<br>(9)   | measure(s)<br>9                               |
| Right Turn | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB   | 0<br><b>NUMBE</b><br><b>2006</b><br><b>3</b><br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                         | 0<br><b>R OF CR</b><br><b>YEAR</b><br><b>2007</b><br><b>1</b><br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>1<br>0<br>1<br>0<br>1<br>1<br>1<br>2<br>4<br>0  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>67%<br>0%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00  | (8)<br>(9)   | measure(s)<br>9                               |
| Right Turn | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB  | 0<br><b>NUMBE</b><br><b>2006</b><br><b>3</b><br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br><b>R OF CR</b><br><b>2007</b><br><b>1</b><br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>1<br>0<br>3<br>0<br>0<br>1<br>1<br>1<br>2<br>4<br>4<br>0<br>0<br>0<br>0   | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>0%<br>17%<br>17%<br>33%<br>67%<br>0%<br>0%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0 | (8)<br>(9)   | measure(s)<br>9                               |
| Right Turn | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB  | 0<br><b>NUMBE</b><br><b>2006</b><br><b>3</b><br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                  | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>2<br>4<br>0<br>0<br>0<br>3<br>YEAR<br>3 YEAR   | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>67%<br>0%<br>0%<br>0%  | 0.00<br>MEAN<br>Accidents<br>Der Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0 | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)   | 9<br>21<br>Counter-                           |
| Right Turn | Lighting Conditions<br>Hours of Day<br>Direction   | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown  | 0<br><b>NUMBE</b><br><b>2006</b><br><b>3</b><br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                   | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>1<br>0<br>3<br>0<br>0<br>1<br>1<br>1<br>2<br>4<br>4<br>0<br>0<br>0<br>0   | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>0%<br>17%<br>17%<br>33%<br>67%<br>0%<br>0%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0 | Cause(s)<br>(8)<br>(9)<br>(12)<br>Possible<br>Cause(s)   | 9<br>21<br>Counter-<br>measure(s)             |
| Right Turn | Lighting Conditions  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown   | 0<br>NUMBE<br>2006<br>3<br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0              | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>3<br>YEAR<br>1<br>0<br>3<br>3<br>0<br>1<br>1<br>0<br>3<br>0<br>1<br>1<br>0<br>3<br>0<br>1<br>1<br>0<br>3<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>3<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0           | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>1.33<br>0.60<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0 | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)                         | Counter-<br>measure(s)<br>19                  |
| Right Turn | Lighting Conditions<br>Hours of Day<br>Direction   | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>pe Crashes<br>Day Light  | 0<br>NUMBE<br>2006<br>3<br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                  | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>3<br>0<br>1<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>0<br>3<br><b>YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>2</b><br><b>2</b><br><b>4</b><br><b>3</b><br><b>3</b><br><b>4</b><br><b>5</b><br><b>5</b><br><b>5</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b>   | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>0%<br>17%<br>33%<br>67%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>83%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.33<br>0.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0 | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)                 | P<br>21<br>Counter-<br>measure(s)<br>19<br>20 |
| Right Turn | Lighting Conditions<br>Hours of Day<br>Direction   | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Day Light<br>Dawn  | 0<br>NUMBE<br>2006<br>3<br>3<br>0<br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                  | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHE<br>6<br>5<br>0<br>1<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>1<br>1<br>0<br>3<br>0<br>1<br>1<br>0<br>3<br>0<br>0<br>1<br>1<br>0<br>3<br>0<br>0<br>1<br>1<br>0<br>3<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>0%<br>17%<br>17%<br>17%<br>17%<br>0%<br>67%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>33%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.03<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.000<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.03<br>0.00<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.03<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0.05<br>0. | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)         | Counter-<br>measure(s)<br>19                  |
| Right Turn | Lighting Conditions<br>Hours of Day<br>Direction   | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>pe Crashes<br>Day Light  | 0<br>NUMBE<br>2006<br>3<br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                  | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>3<br>0<br>1<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>0<br>3<br><b>YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>2</b><br><b>2</b><br><b>4</b><br><b>3</b><br><b>3</b><br><b>4</b><br><b>5</b><br><b>5</b><br><b>5</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b>   | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>0%<br>17%<br>33%<br>67%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>83%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>1.00<br>0.33<br>0.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0 | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)                 | Counter-<br>measure(s)<br>19<br>20            |
| Right Turn | Lighting Conditions<br>Hours of Day<br>Direction   | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Dark<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00  | 0<br>NUMBE<br>2006<br>3<br>3<br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                             | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>29</b><br>24<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>0%<br>17%<br>17%<br>33%<br>67%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>33%<br>33  | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.35<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.5 | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)<br>(20) | Counter-<br>measure(s)<br>19<br>20            |
|            | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions                 | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Day Light<br>Dawk<br>Dayk<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00  | 0<br>NUMBE<br>2006<br>3<br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0              | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>2<br>4<br>0<br>0<br>0<br>1<br><b>2</b><br><b>4</b><br>0<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br><b>5</b><br><b>5</b><br><b>0</b><br><b>1</b><br><b>1</b><br><b>0</b><br><b>1</b><br><b>1</b><br><b>0</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b>  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%  | 0.00<br>MEAN<br>Accidents<br>Der Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.03<br>0.00<br>0.00<br>0.00<br>0.00<br>0.03<br>0.00<br>0.00<br>0.03<br>0.00<br>0.03<br>0.00<br>0.03<br>0.03<br>0.33<br>0.33<br>0.33<br>0.67  | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)<br>(20) | Counter-<br>measure(s)<br>19<br>20            |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction   | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Day Light<br>Day Light<br>Day Light<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00  | 0<br>NUMBE<br>2006<br>3<br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>2007<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                     | 0           ASHES           2008           2           1           0           1           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           7           0           3           0           5           0           1 | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>1<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CPASHE</b><br><b>2</b><br><b>4</b><br>0<br>0<br>0<br><b>3 YEAR</b><br><b>1</b><br>1<br>1<br>2<br>4<br>1<br>0<br>0<br><b>3 YEAR</b><br><b>1</b><br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>17%<br>0%<br>17%<br>67%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>17%<br>83%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>14%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.67<br>1.67  | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)<br>(20) | Counter-<br>measure(s)<br>19<br>20            |
|            | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions                 | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>00:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00  | 0<br>NUMBE<br>2006<br>3<br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                             | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CPASHE</b><br><b>24</b><br>1<br><b>1</b><br><b>2</b><br><b>24</b><br>1<br><b>1</b><br><b>1</b><br><b>2</b><br><b>3 YEAR</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>2</b><br><b>3 YEAR</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b>  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>17%<br>17%<br>17%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>1.33<br>0.33<br>0.33<br>1.33<br>0.33<br>0.33<br>0.33<br>1.33<br>0.67<br>1.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.35<br>0.57<br>1.67<br>1.33<br>0.05<br>0.05<br>0.05<br>0.33<br>0.33<br>0.33<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.35<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.55<br>0.5 | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)<br>(20) | Counter-<br>measure(s)<br>19<br>20            |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions                 | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Day Light<br>Day Light<br>Day Light<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00  | 0<br>NUMBE<br>2006<br>3<br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>R OF CR<br>2007<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                     | 0           ASHES           2008           2           1           0           1           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           7           0           3           0           5           0           1 | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>1<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CPASHE</b><br><b>2</b><br><b>4</b><br>0<br>0<br>0<br><b>3 YEAR</b><br><b>1</b><br>1<br>1<br>2<br>4<br>1<br>0<br>0<br><b>3 YEAR</b><br><b>1</b><br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>4<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>17%<br>0%<br>17%<br>67%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>17%<br>83%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>3%<br>14%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.67<br>1.67  | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)<br>(20) | Counter-<br>measure(s)<br>19<br>20            |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions                 | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00<br>13:00 - 13:00<br>13:00 - 13:00<br>13:00 - 13:00<br>13:00 - 13:00<br>13:00 - 13:00<br>13:00 - 24:00<br>North   | 0<br>NUMBE<br>2006<br>3<br>3<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                             | 0           ASHES           2008           2           1           0           1           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           3           0           1           0 | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CPASHE</b><br><b>2</b> 4<br>1<br>1<br><b>2</b><br><b>3 YEAR</b><br><b>1</b><br>1<br>2<br>4<br>1<br>1<br><b>2</b><br><b>3 YEAR</b><br><b>1</b><br>1<br>2<br>4<br>1<br>1<br>2<br>5<br>6<br>6<br><b>6</b><br><b>6</b><br><b>6</b><br><b>7</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b>  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>1.67<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>2.00  | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)<br>(20) | Counter-<br>measure(s)<br>19<br>20            |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions<br>Hours of Day | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>11:00 - 13:00<br>11:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>North<br>South  | 0<br>NUMBE<br>2006<br>3<br>3<br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                             | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>1<br>1<br>2<br>4<br>1<br>1<br>2<br>4<br>1<br>1<br>2<br>5<br>5<br>6<br>6<br>5<br>0<br>1<br>1<br>2<br>5<br>6<br>6<br>5<br>0<br>1<br>1<br>1<br>2<br>5<br>6<br>6<br>5<br>0<br>1<br>1<br>1<br>2<br>5<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>0%<br>17%<br>17%<br>33%<br>67%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>17%<br>33%<br>67%<br>0%<br>17%<br>0%<br>17%<br>0%<br>50%<br>17%<br>0%<br>17%<br>0%<br>50%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>50%<br>17%<br>0%<br>50%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>0%<br>0%<br>17%<br>0%<br>0%<br>0%<br>17%<br>0%<br>0%<br>0%<br>0%<br>0%<br>17%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0% | 0.00<br>MEAN<br>Accidents<br>per 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| Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)<br>(20) | P<br>21<br>Counter-<br>measure(s)<br>19<br>20 |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions                 | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>DayLight<br>Dawn<br>Dark<br>00:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>13:00 - 15:00<br>15:00 - 18:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South<br>East | 0  NUMBE 2006 3 0 0 0 2 0 0 1 0 0 0 0 2 1 0 0 0 0 0 2 1 1 0 0 0 0  | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                  | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 0.00<br>MEAN<br>Accidents<br>Der Year<br>2.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.03<br>0.33<br>1.33<br>0.67<br>1.67<br>1.67<br>1.67<br>1.67<br>2.00<br>6.33<br>1.33  | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)<br>(20) | P<br>21<br>Counter-<br>measure(s)<br>19<br>20 |
| Sideswipe  | Lighting Conditions<br>Hours of Day<br>Direction<br>Total Sideswi<br>Lighting Conditions<br>Hours of Day | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>18:00 - 24:00<br>NB→EB<br>EB→SB<br>WB→NB<br>SB→WB<br>Unknown<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>11:00 - 13:00<br>11:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>15:00 - 15:00<br>North<br>South  | 0<br>NUMBE<br>2006<br>3<br>3<br>0<br>0<br>0<br>2<br>0<br>1<br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>0<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>R OF CR<br>YEAR<br>2007<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                             | 0<br>ASHES<br>2008<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>6</b><br>5<br>0<br>1<br>0<br>1<br>1<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>1<br>1<br>2<br>4<br>0<br>0<br>0<br>1<br>1<br>2<br>4<br>1<br>1<br>2<br>4<br>1<br>1<br>2<br>5<br>5<br>6<br>6<br>5<br>0<br>1<br>1<br>2<br>5<br>6<br>6<br>5<br>0<br>1<br>1<br>1<br>2<br>5<br>6<br>6<br>5<br>0<br>1<br>1<br>1<br>2<br>5<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7  | 0%<br>of<br>Total<br>100%<br>83%<br>0%<br>17%<br>0%<br>50%<br>0%<br>0%<br>17%<br>17%<br>33%<br>67%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>17%<br>33%<br>67%<br>0%<br>17%<br>0%<br>17%<br>0%<br>50%<br>17%<br>0%<br>17%<br>0%<br>50%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>50%<br>17%<br>0%<br>50%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>17%<br>0%<br>0%<br>17%<br>0%<br>0%<br>0%<br>17%<br>0%<br>0%<br>0%<br>17%<br>0%<br>0%<br>0%<br>0%<br>0%<br>17%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0% | 0.00<br>MEAN<br>Accidents<br>per Year<br>2.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.67<br>1.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.33<br>0.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.67<br>1.00<br>0.63<br>0.63<br>0.63<br>0.57<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.5 | Cause(s)<br>(8)<br>(9)<br>(12)<br>(12)<br>Possible<br>Cause(s)<br>(16)<br>(18)<br>(19)<br>(20) | Counter-<br>measure(s)<br>19<br>20            |



#### 3.11.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at NW 67 Avenue and NW 169 Street were performed on a typical weekday on November 30, 2010. A summary of the traffic data is presented in *Figure 43*, and the field review is presented in *Figure 44*.

This intersection has single left-turn bays for all approaches except the northbound which has double left-turn lanes. The eastbound approach has double right-turn lanes. The signal operation is protected/permissive for all approaches left-turns except northbound double left-turn lanes which are protected only.

Traffic spilling back along the outer most southbound through/right lane was observed blocking the through traffic. The outer most lanes on the northbound and southbound directions act as auxiliary lanes for SR-826 on/off ramps. Those lanes are transitioned to or from a six-lane road by adding or dropping (merge) a lane for the southbound and northbound traffic about 300 feet north of the intersection, respectively.

Considerable lane changing (weaving) was noticed on the northbound and southbound approaches. Consequently, lack of advance warning signs for northbound/southbound traffic transitioning from the outer lanes was observed.

Vehicles from driveways located along the west side of the south leg were identified as potential conflict with southbound traffic.

Several vehicles were observed trapped in the middle of the intersection during the left-turn permissive phase along southbound approach. Also, there is an offset between the northbound and southbound approaches.

It was observed that the length of the queue for northbound/southbound left-turns also spilled over the through traffic.

The westbound has a sharp right-turn curve return radii that promotes vehicles to turn into receiving internal lanes. Also, there is no advance warning of the approaching signal due to the curvature of the east leg.

#### 3.11.4. Recommendations

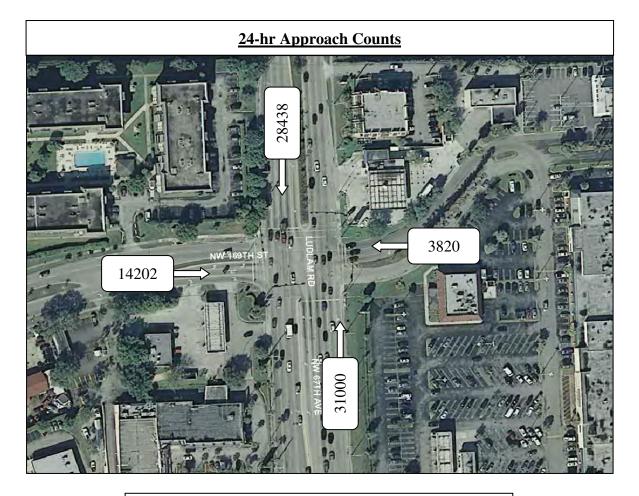
Based on the safety analysis, field observations and traffic operations for the intersection of NW 67 Avenue and NW 169 Street, the following is recommended:

- Lengthen the southbound left-turn lane to approximately 450 ft.
- Lengthen the eastbound and westbound left-turn lanes to approximately 300 ft each.
- Reducing the offset between northbound and southbound left turn lanes by reducing the north leg median width and creating a striped gore.

- Extending the distance between the intersection and the add/drop lane tapers along the north leg.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Smoothing the curve return radii for the westbound right-turn traffic.
- Installing "Signal Ahead" (W3-3) signs for eastbound and westbound approaches.
- Installing advance warning signs for adding and dropping lanes (W4-2) along the north leg.
- Installing regulatory signs to control northbound/southbound U-turns to yield to conflicting right-turns (R10-16).
- Providing pedestrian countdown signal heads and ADA approved pedestrian ramps.
- Providing sidewalks along the east leg of the intersection.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 45.





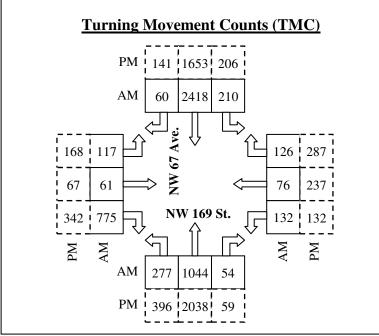


Figure 43: Traffic Data – NW 67 Avenue and NW 169 Street





Southbound approach: Long queues of rightturn vehicles and no warning signs for adding lanes.



Northbound/Southbound: Left-turn lanes are not aligned to reduce the offset.



Southbound approach: Long queues of leftturn traffic.



East leg: lack of ADA approved pedestrian ramps and sidewalks.



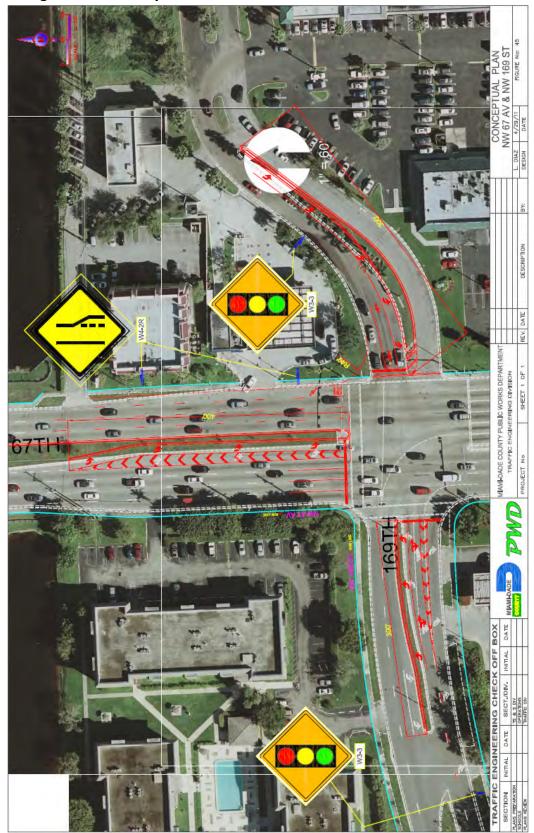
pavement markings.



Westbound approach: Faded pavement markings and deteriorated pavement conditions.

Figure 44: Field Review – NW 67 Avenue and NW 169 Street





## Figure 45: Conceptual Plan – NW 67 Avenue and NW 169 Street

Safety Studies at High Crash Locations Countywide



## 3.12. SW 147 Avenue and SW 104 Street

### 3.12.1. Site Description

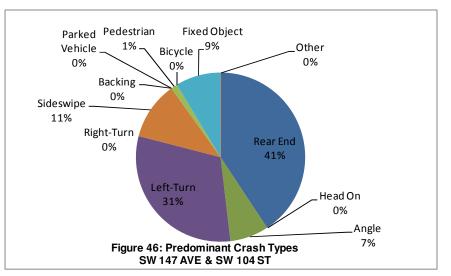
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 147 Avenue is a four lane major collector divided by a raised median that runs north-south, and SW 104 Street is a four lane urban arterial divided by a raised median that runs east-west.

## 3.12.2. Safety Conditions and Analysis

The intersection of SW 147 Avenue and SW 104 Street is ranked number 12 in our high crash locations list. A review of the hard copy police reports for the year 2006 through 2008 was performed. During the three-year analysis period, 81 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 27. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 46*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 28* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.636, 1.201, and 1.900, respectively. The safety ratio for the three years averaged 1.579. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that left-turn and fixed object collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 29*.



|  |   | (4   200   | v 4 Lano     |  |  |                       | SW 104                |              | 28) - URBAN        | l Spot                           |             |                                   |         |
|--|---|------------|--------------|--|--|-----------------------|-----------------------|--------------|--------------------|----------------------------------|-------------|-----------------------------------|---------|
|  |   |            | R OF CF      |  | 3 YEAR                                   | %                     | MEAN                  |              |                    | ASH VALUE                        | ABNORM      | ALLY HIGH                         | CRASHE  |
|  | TYPE OF CRASH   | 2006       | YEAR<br>2007 | 2008                                     | TOTAL                                    | of<br>Total           | Accidents<br>per Year | MEAN         | 90th<br>Percentile | 95th                             | Mean        | 90th<br>Percentil                 | 95th    |
| OLLISION TYPE                              | Rear End  | 9          | 11           | 13                                       | 33                                       | 20%                   | 11.00                 | 5.70         | 16.96              | 19.12                            | x           | Fercentin                         | Feicent |
|  | Head On   | 0          | 0            | 0  | 0  | 0%                    | 0.00                  | 0.33         | 1.02               | 1.15                             |             |                                   |         |
|  | Angle   | 1          | 1            | 4  | 6  | 3%                    | 2.00                  | 3.05         | 7.08               | 7.85                             |             |                                   |         |
|  | Left Turn   | 13         | 4            | 8  | 25                                       | 12%                   | 8.33                  | 1.67         | 4.02               | 4.47                             | х           | х                                 | Х       |
|  | Right Turn  | 0          | 0            | 0  | 0  | 0%                    | 0.00                  | 0.33         | 1.25               | 1.42                             |             |                                   |         |
|  | Sideswipe   | 3          | 3            | 3  | 9  | 4%                    | 3.00                  | 1.60         | 4.64               | 5.22                             | X           |                                   |         |
|  | Backed Into   | 0          | 0            | 0  | 0  | 0%                    | 0.00                  | 0.17         | 0.56               | 0.63                             |             |                                   |         |
|  | Coll. w/ Parked Car   | 0          | 0            | 0  | 0  | 0%                    | 0.00                  | 0.10         | 0.51               | 0.59                             |             |                                   |         |
|  | Coll. w/ Pedestrian   | 0          | 0            | 1  | 1  | 0%                    | 0.33                  | 0.28         | 1.04               | 1.19                             | X           |                                   |         |
|  | Coll. w/ Bicycle<br>Fixed Object                              | 0          | 0            | 0  | 0  | 0%                    | 0.00                  | 0.09         | 0.33               | 0.38                             |             | - V                               | ~       |
|  | Ran Off Road  | 2          | 2            | 3  | 7  | 2%<br>0%              | 2.33<br>0.00          | 0.03         | 0.21               | 0.24 0.00                        | Х           | x                                 | Х       |
|  | Overtuned   | 0          | 0            | 0  | 0  | 0%                    | 0.00                  | 0.00         | 0.00               | 0.24                             |             |                                   |         |
|  | Other   | 0          | 0            | 0  | 0<br>0                                   | 0%                    | 0.00                  | 3.70         | 8.83               | 9.82                             |             |                                   |         |
|  | Total Crashes   | 28         | 21           | 32                                       | 81                                       | 24%                   | 27.00                 | 17.77        | 40.96              | 45.39                            | х           |                                   |         |
| EVERITY                                    | PDO crashes   | 22         | 19           | 25                                       | 66                                       | 81%                   | 22.00                 | 9.93         | 22.30              | 24.67                            | x           |                                   |         |
|  | Fatal crashes   | 0          | 0            | 0  | 0  | 0%                    | 0.00                  | 0.05         | 0.26               | 0.29                             |             |                                   |         |
|  | Injury crashes  | 6          | 2            | 7  | 15                                       | 19%                   | 5.00                  | 13.14        | 33.08              | 36.90                            |             |                                   |         |
| GHT CONDITIONS                             | Day Light   | 17         | 16           | 19                                       | 52                                       | 64%                   | 17.33                 | 12.40        | 29.18              | 32.39                            | Х           | 1                                 |         |
|  | Dusk  | 0          | 0            | 0  | 0  | 0%                    | 0.00                  | 0.28         | 0.87               | 0.98                             |             |                                   |         |
|  | Dawn  | 0          | 1            | 0  | 1  | 1%                    | 0.33                  | 0.17         | 0.56               | 0.63                             | Х           |                                   |         |
|  | Dark  | 11         | 4            | 13                                       | 28                                       | 35%                   | 9.33                  | 4.56         | 10.53              | 11.68                            | Х           |                                   |         |
|  | Unknown   | 0          | 0            | 0  | 0  | 0%                    | 0.00                  | 0.35         | 1.05               | 1.18                             |             |                                   |         |
| URFACE CONDITIONS                          |   | 19         | 18           | 28                                       | 65                                       | 80%                   | 21.67                 | 15.30        | 34.45              | 38.12                            | X           |                                   |         |
|  | Wet   | 2          | 3            | 4  | 9  | 11%                   | 3.00                  | 2.10         | 6.02               | 6.76                             | X           |                                   |         |
|  | Others  | 7          | 0            | 0  | 7  | 9%                    | 2.33                  | 0.37         | 1.10               | 1.24                             | X           | Х                                 | Х       |
| ONTH OF A YEAR                             | January   | 0          | 2            | 2  | 4  | 5%                    | 1.33                  | 1.42         | 3.33               | 3.69                             | v           |                                   |         |
|  | February  | 2          | 1            | 2  | 5  | 6%                    | 1.67                  | 1.42         | 3.53               | 3.93                             | X           |                                   |         |
|  | March   | 1          | 1            | 3  | 5  | 6%<br>9%              | 1.67<br>2.33          | 1.67         | 4.12<br>3.21       | 4.59                             | x           |                                   |         |
|  | April<br>May  | 4          | 1            | 2  | 7  | 9%<br>9%              | 2.33                  | 1.30<br>1.74 |                    | 3.57<br>4.99                     | x           |                                   |         |
|  | June  | 4          | 2            | 1  | 3  | 9%<br>4%              | 2.33                  | 1.74         | 4.46<br>3.49       | 4.99<br>3.90                     | ^           |                                   |         |
|  | July  | 4          | 2            | 4  | 10                                       | 12%                   | 3.33                  | 1.35         | 3.49               | 3.58                             | x           | x                                 |         |
|  | August  | 2          | 2            | 2  | 6  | 7%                    | 2.00                  | 1.56         | 3.99               | 4.46                             | X           | ^                                 |         |
|  | September   | 3          | 1            | 5  | 9  | 11%                   | 3.00                  | 1.46         | 3.73               | 4.16                             | x           |                                   |         |
|  | October   | 4          | 2            | 4  | 10                                       | 12%                   | 3.33                  | 1.47         | 3.59               | 4.00                             | X           |                                   |         |
|  | November  | 1          | 1            | 3  | 5  | 6%                    | 1.67                  | 1.39         | 3.53               | 3.94                             | X           |                                   |         |
|  | December  | 2          | 5            | 3  | 10                                       | 12%                   | 3.33                  | 1.61         | 4.43               | 4.97                             | X           |                                   |         |
| AY OF THE WEEK                             | Sunday  | 5          | 3            | 5  | 13                                       | 16%                   | 4.33                  | 1.46         | 3.47               | 3.85                             | X           | х                                 | х       |
|  | Monday  | 2          | 3            | 6  | 11                                       | 14%                   | 3.67                  | 2.70         | 6.42               | 7.13                             | х           |                                   |         |
|  | Tuesday   | 4          | 6            | 1  | 11                                       | 14%                   | 3.67                  | 2.49         | 6.18               | 6.88                             | х           |                                   |         |
|  | Wednesday   | 5          | 2            | 7  | 14                                       | 17%                   | 4.67                  | 2.56         | 5.84               | 6.47                             | х           |                                   |         |
|  | Thursday  | 1          | 2            | 2  | 5  | 6%                    | 1.67                  | 2.88         | 7.20               | 8.03                             |             |                                   |         |
|  | Friday  | 7          | 2            | 7  | 16                                       | 20%                   | 5.33                  | 3.07         | 7.50               | 8.35                             | X           |                                   |         |
|  | Saturday  | 4          | 3            | 4  | 11                                       | 14%                   | 3.67                  | 2.61         | 6.40               | 7.13                             | Х           |                                   |         |
| OUR OF THE DAY                             | 00:00-06:00   | 6          | 1            | 3  | 10                                       | 12%                   | 3.33                  | 1.70         | 3.39               | 3.71                             | X           |                                   |         |
|  | 06:00-09:00   | 2          | 3            | 4  | 9  | 11%                   | 3.00                  | 1.98         | 5.12               | 5.72                             | X           |                                   |         |
|  | 09:00-11:00   | 1          | 3            | 2  | 6  | 7%                    | 2.00                  | 1.72         | 4.23               | 4.71                             | Х           |                                   |         |
|  | 11:00-13:00   | 4          | 3            | 0  | 7  | 9%                    | 2.33                  | 2.40         | 6.30               | 7.05                             | x           |                                   |         |
|  | 13:00-15:00<br>15:00-18:00                                    | 3          | 2            | 6<br>4                                   | 11                                       | 14%<br>19%            | 3.67<br>5.00          | 1.95         | 5.32<br>7.81       | 5.96                             | X           |                                   |         |
|  | 18:00-24:00   | 6<br>6     | 5<br>4       | 13                                       | 23                                       | 28%                   | 7.67                  | 3.58<br>4.42 | 10.63              | 8.62<br>11.82                    | x           |                                   |         |
|  | 10.00 2 1.00  | Ŭ          |              | 10                                       |  | YEAR                  |                       | 3-Year       |                    | 11.02                            | ~           |                                   |         |
|  |   |            |              |  | 1  | 2                     | 3                     | Average      |                    |                                  |             |                                   |         |
| verage Daily Traffic A                     | DT (Vehicles per D  | Day)       |              |  | 51,405                                   | 51,405                | 51,405                | 51,405       | 1                  |                                  |             |                                   |         |
| lorida Average Crash                       | rate (Crashes per   | Million En | tering Ve    | hicles)                                  | 0.420                                    | 0.424                 | 0.394                 | 0.413        | 1                  |                                  |             |                                   |         |
| ÷  | . ,   |            | <b>J</b> -   | ,  |  |                       |                       |              | 1                  |                                  |             |                                   |         |
| raffic Base                                |   |            |              |  | 18.763                                   | 18.763                | 18.763                | 18.763       | 4                  |                                  |             |                                   |         |
| ctual Crash Rate (Cr                       | ashes per Million E   | ntering V  | ehicles)     |  | 1.492                                    | 1.119                 | 1.706                 | 1.439        | 1                  |                                  |             |                                   |         |
| ritical Crash Rate (C                      | rashes ner Million P  | nterina V  | ehicles)     |  | 0.939                                    | 0.945                 | 0.897                 | 0.927        | 1                  |                                  |             |                                   |         |
|  |   |            | )            |  |  |                       |                       |              | -                  |                                  |             |                                   |         |
| afety Ratio                                |   |            |              |  | 1.589                                    | 1.184                 | 1.900                 | 1.558        | 4                  |                                  |             |                                   |         |
| ligh Crash Location                        | ??  |            |              |  | YES                                      | YES                   | YES                   | YES          |                    |                                  |             |                                   |         |
| <b>tigh Crash Location</b><br>Actual Crash | $Rate = \frac{A \times 1,00}{V}$                              | 0 ,000     |              |  |  | f crashes             | or number o           |              | y type occurrin    | ng in a 1 year                   | period.     |                                   |         |
|  | $ate = AVR + \frac{0.5}{TB} + 2$ $Years \times ADT \times 30$ | 112        | 2            | <i>TB</i> = Tr<br><i>TF</i> = Te<br>= 1. | affic Base<br>st Factor (z<br>96 (assume | z-value)<br>e 95% Cor | nfidence Lev          | el for RURAL | areas)             | Confidence I                     | Level (%)   | nt.<br>Constant Z<br>1.00<br>1.50 | ]       |
|  | Years × ADT × 30<br>1,000,000<br>Actual Crash                 |            |              |  |  |                       |                       | evel for URL | ,                  | 90.00<br>95.00<br>95.50<br>98.80 | )<br>)<br>) | 1.64<br>1.96<br>2.00<br>2.50      |         |
| Safety Ratio                               | $= \frac{Actual Crash}{Critical Crash}$                       | h Rate     | -            |  |  |                       |                       |              |                    | 99.00<br>99.70<br>99.9           | )           | 2.58<br>3.00<br>3.29              |         |

# Table 28 – Crash Analysis – SW 147 Avenue and SW 104 Street



# Table 29 – Abnormal Crash Details & CountermeasuresSW 147 Avenue and SW 104 Street

|              |                                      | SW 1  | 47 Aven  | ue & S   | W 104 S  | Street  |   |   |                      |                                 |  |
|--------------|--------------------------------------|---|--|--|--|---|---|---|----------------------|---------------------------------|--|
|              | (4 Lane x 4                          | Lane, Signalized, V   | /ith Turn L  | anes, 4 L  | eg Interse   | ection-Table 2  | 28) - URB   | AN Spot   |                      |                                 |  |
|              |                                      |   |  |  |  |   |   |   |                      |                                 |  |
|              |                                      |   | NUMBE  | R OF CF<br>YEAR  | RASHES   | 3 YEAR<br>TOTAL   | %<br>of   | MEAN<br>Accidents   | Possible<br>Cause(s) | Counter<br>measure(             |  |
|              |                                      |   | 2006   | 2007   | 2008   | CRASHES   | Total   | per Year  | .,                   |                                 |  |
|              | Total Fixed Ob                       |   | 2  | 2  | 3  | 7   | 100%  | 2.33  | (6)                  | 12                              |  |
|              |                                      | Day Light   | 2  | 1  | 0  | 3   | 43%   | 1.00  | (16)                 | 20                              |  |
|              | Lighting Conditions                  | Dawn  | 0  | 0  | 0  | 0   | 0%  | 0.00  | (17)                 | 28                              |  |
|              |                                      | Dark  | 0  | 1  | 3  | 4   | 57%   | 1.33  | (25)                 |                                 |  |
|              |                                      | 00:00 - 06:00   | 0  | 1  | 0  | 1   | 14%   | 0.33  |                      |                                 |  |
|              |                                      | 06:00 - 09:00   | 0  | 0  | 1  | 1   | 14%   | 0.33  |                      |                                 |  |
|              |                                      | 09:00 - 11:00   | 0  | 1  | 0  | 1   | 14%   | 0.33  |                      |                                 |  |
| Fixed Object | Hours of Day                         | 11:00 - 13:00   | 0  | 0  | 0  | 0   | 0%  | 0.00  |                      |                                 |  |
|              |                                      | 13:00 - 15:00   | 1  | 0  | 0  | 1   | 14%   | 0.33  |                      |                                 |  |
|              |                                      | 15:00 - 18:00   | 1  | 0  | 0  | 1   | 14%   | 0.33  |                      |                                 |  |
|              |                                      | 18:00 - 24:00   | 0  | 0  | 2  | 2   | 29%   | 0.67  |                      |                                 |  |
|              |                                      | North   | 2  | 1  | 1  | 4   | 57%   | 1.33  |                      |                                 |  |
|              |                                      | South   | 0  | 1  | 1  | 2   | 29%   | 0.67  |                      |                                 |  |
|              | Direction                            | East  | 0  | 0  | 1  | 1   | 14%   | 0.33  |                      |                                 |  |
|              |                                      |   |  |  |  |   |   |   |                      |                                 |  |
|              |                                      | West  | 0  | 0  | 0  | 0   | 0%  | 0.00  |                      |                                 |  |
|              |                                      | West<br>Unknown   | 0  | 0  | 0  | 0   | 0%<br>0%  | 0.00  |                      |                                 |  |
|              |                                      |   | -  |  | -  | -   |   |   |                      |                                 |  |
|              |                                      |   | 0  | 0  | 0  | 0   | 0%  | 0.00  |                      |                                 |  |
|              |                                      |   | 0  | 0<br>R OF CR   | 0  | 0<br>3 YEAR   | 0%  | 0.00  | Possible             | Counter                         |  |
|              |                                      |   | 0<br>NUMBE   | 0<br>R OF CR<br>YEAR   | ORASHES  | 0<br>3 YEAR<br>TOTAL  | 0%<br>%<br>of   | 0.00<br>MEAN<br>Accidents   | Possible<br>Cause(s) | Counter                         |  |
|              |                                      | Unknown   | 0<br>NUMBE<br>2006   | 0<br>R OF CF<br>YEAR<br>2007   | 0<br>RASHES<br>2008  | 0<br>3 YEAR<br>TOTAL<br>CRASHES   | 0%<br>%<br>of<br>Total  | 0.00<br>MEAN<br>Accidents<br>per Year   | Cause(s)             | measure                         |  |
|              | Total Left Tu                        | Unknown<br>rn Crashes   | 0<br>NUMBE<br>2006<br>13   | 0<br>R OF CF<br>YEAR<br>2007<br>4  | 0<br>ASHES<br>2008<br>8  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25   | 0%<br>0f<br>Total<br>100%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33   | Cause(s)<br>(9)      | measure<br>9                    |  |
|              |                                      | Unknown<br>rn Crashes<br>Day Light  | 0<br>NUMBE<br>2006<br>13<br>5  | 0<br>R OF CF<br>YEAR<br>2007<br>4<br>3   | 0<br>RASHES<br>2008<br>8<br>6  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14   | 0%<br>of<br>Total<br>100%<br>56%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67   | Cause(s)             | measure<br>9<br>13              |  |
|              | Total Left Tu<br>Lighting Conditions | Unknown<br>rn Crashes<br>Day Light<br>Dawn  | 0<br>NUMBE<br>2006<br>13<br>5<br>0   | 0<br>R OF CF<br>YEAR<br>2007<br>4<br>3<br>0  | 0<br><b>BASHES</b><br>2008<br>8<br>6<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0  | 0%<br>of<br>Total<br>100%<br>56%<br>0%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00   | Cause(s)<br>(9)      | measure<br>9                    |  |
|              |                                      | Unknown<br>rn Crashes<br>Day Light<br>Dawn<br>Dark  | 0<br>NUMBE<br>2006<br>13<br>5<br>0<br>8  | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>3<br>0<br>1   | 0<br><b>BASHES</b><br>2008<br>8<br>6<br>0<br>2   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>11  | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67   | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
|              |                                      | Unknown<br>rn Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00   | 0<br>NUMBE<br>2006<br>13<br>5<br>0<br>8<br>2   | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>3<br>0<br>1<br>0  | 0<br><b>BASHES</b><br>2008<br>8<br>6<br>0<br>2<br>0  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>11<br>2   | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67<br>0.67   | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
|              |                                      | Unknown<br>m Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00   | 0<br>NUMBE<br>2006<br>13<br>5<br>0<br>8<br>2<br>1                                    | 0<br><b>FR OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>3<br>0<br>1<br>0<br>2  | 0<br><b>ASHES</b><br>2008<br>8<br>6<br>0<br>2<br>0<br>1  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>11<br>2<br>4  | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>16%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67<br>0.67<br>1.33   | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
|              | Lighting Conditions                  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00   | 0<br>NUMBE<br>2006<br>13<br>5<br>0<br>8<br>2<br>1<br>2<br>1<br>2                     | 0<br><b>FR OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>3<br>0<br>1<br>0<br>2<br>0   | 0<br><b>2008</b><br><b>8</b><br>6<br>0<br>2<br>0<br>1<br>1   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>11<br>2<br>4<br>3   | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>16%<br>12%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67<br>0.67<br>1.33<br>1.00   | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
| Left Turn    |                                      | Unknown<br>The Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00   | 0<br>NUMBE<br>2006<br>13<br>5<br>0<br>8<br>2<br>1<br>2<br>3                          | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>3<br>0<br>1<br>0<br>2<br>0<br>0<br>0  | 0<br><b>BASHES</b><br><b>2008</b><br><b>8</b><br>6<br>0<br>2<br>0<br>1<br>1<br>0                         | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>11<br>2<br>4<br>3<br>3<br>3   | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>8%<br>16%<br>12%                                       | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67<br>0.67<br>1.33<br>1.00<br>1.00   | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
| Left Turn    | Lighting Conditions                  | Unknown<br>The Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00   | 0<br><b>NUMBE</b><br>2006<br>13<br>5<br>0<br>8<br>2<br>1<br>2<br>3<br>1              | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>3<br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>0   | 0<br><b>BASHES</b><br><b>2008</b><br><b>8</b><br>6<br>0<br>2<br>0<br>1<br>1<br>1<br>0<br>1               | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>111<br>2<br>4<br>3<br>3<br>3<br>2   | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>16%<br>12%<br>8%                                       | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67<br>1.33<br>1.00<br>1.00<br>0.67   | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
| Left Turn    | Lighting Conditions                  | Unknown<br>The Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00                         | 0<br><b>NUMBE</b><br>2006<br>13<br>5<br>0<br>8<br>2<br>1<br>2<br>3<br>1<br>0         | 0<br><b>FR OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>0<br>1<br>1   | 0<br><b>2008</b><br><b>8</b><br>6<br>0<br>2<br>0<br>1<br>1<br>0<br>1<br>1<br>1                           | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>111<br>2<br>4<br>3<br>3<br>3<br>2<br>2<br>2                               | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>16%<br>12%<br>8%<br>8%                                 | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67<br>0.67<br>1.33<br>1.00<br>1.00<br>0.67<br>0.67                         | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
| Left Turn    | Lighting Conditions                  | Unknown<br>m Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00          | 0<br><b>NUMBE</b><br>2006<br>13<br>5<br>0<br>8<br>2<br>1<br>2<br>3<br>1<br>0<br>4    | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>1<br>1<br>1  | 0<br>ASHES<br>2008<br>8<br>6<br>0<br>2<br>0<br>1<br>1<br>1<br>1<br>4                                     | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>111<br>2<br>4<br>3<br>3<br>2<br>2<br>2<br>9                               | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>18%<br>18%<br>18%<br>8%<br>8%<br>36%                   | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67<br>0.67<br>1.33<br>1.00<br>1.00<br>0.67<br>0.67<br>3.00                 | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
| Left Turn    | Lighting Conditions                  | Unknown<br>Day Light<br>Dawn<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>18:00 - 24:00<br>NB → WB                     | 0<br>NUMBE<br>2006<br>13<br>5<br>0<br>8<br>2<br>1<br>2<br>3<br>1<br>0<br>4<br>1      | 0<br><b>FR OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>3<br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br><b>ASHES</b><br><b>2008</b><br><b>8</b><br>6<br>0<br>2<br>0<br>1<br>1<br>0<br>1<br>4<br>0           | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>11<br>2<br>4<br>3<br>3<br>2<br>2<br>2<br>9<br>9<br>1                      | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>16%<br>12%<br>12%<br>8%<br>36%<br>36%<br>4%            | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.67<br>1.33<br>1.00<br>1.00<br>0.67<br>0.67<br>3.00<br>0.33                         | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
| Left Turn    | Lighting Conditions<br>Hours of Day  | Unknown<br>m Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00          | 0<br>NUMBE<br>2006<br>13<br>5<br>0<br>8<br>2<br>1<br>2<br>3<br>1<br>0<br>4<br>1<br>6 | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>1<br>1<br>1  | 0<br>ASHES<br>2008<br>8<br>6<br>0<br>2<br>0<br>1<br>1<br>1<br>1<br>4                                     | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>111<br>2<br>4<br>3<br>3<br>2<br>2<br>2<br>9                               | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>16%<br>12%<br>12%<br>8%<br>8%<br>8%<br>8%<br>36%<br>4% | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67<br>0.67<br>1.33<br>1.00<br>1.00<br>0.67<br>0.67<br>3.00                 | Cause(s)<br>(9)      | measure<br>9<br>13              |  |
| Left Turn    | Lighting Conditions                  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 13:00<br>13:00 - 13:00<br>13:00 - 24:00<br>NB → WB<br>WB → SB<br>SB → EB       | 0<br>NUMBE<br>2006<br>13<br>5<br>0<br>8<br>2<br>1<br>2<br>3<br>1<br>0<br>4<br>1      | 0<br><b>FR OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>3<br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br><b>ASHES</b><br><b>2008</b><br><b>8</b><br>6<br>0<br>2<br>0<br>1<br>1<br>0<br>1<br>4<br>0           | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>11<br>2<br>4<br>3<br>3<br>2<br>2<br>2<br>9<br>9<br>1                      | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>16%<br>12%<br>12%<br>8%<br>36%<br>36%<br>4%            | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.67<br>1.33<br>1.00<br>1.00<br>0.67<br>0.67<br>3.00<br>0.33                         | Cause(s)<br>(9)      | <mark>measure</mark><br>9<br>13 |  |
| Left Turn    | Lighting Conditions<br>Hours of Day  | Unknown<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>NB → WB<br>WB → SB | 0<br>NUMBE<br>2006<br>13<br>5<br>0<br>8<br>2<br>1<br>2<br>3<br>1<br>0<br>4<br>1<br>6 | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>3<br>0<br>1<br>0<br>2<br>0<br>0<br>0<br>1<br>1<br>0<br>2<br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>2<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br><b>ASHES</b><br><b>2008</b><br><b>8</b><br>6<br>0<br>2<br>0<br>1<br>1<br>0<br>1<br>1<br>4<br>0<br>3 | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>25<br>14<br>0<br>111<br>2<br>4<br>3<br>3<br>2<br>4<br>3<br>3<br>2<br>2<br>9<br>9<br>1<br>1 | 0%<br>of<br>Total<br>100%<br>56%<br>0%<br>44%<br>8%<br>16%<br>12%<br>12%<br>8%<br>8%<br>8%<br>8%<br>36%<br>4% | 0.00<br>MEAN<br>Accidents<br>per Year<br>8.33<br>4.67<br>0.00<br>3.67<br>1.33<br>1.00<br>1.00<br>1.00<br>0.67<br>0.67<br>3.00<br>0.33<br>3.67 | Cause(s)<br>(9)      | <mark>measure</mark><br>9<br>13 |  |

### 3.12.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 147 Avenue and SW 104 Street were performed on a typical weekday on November 18, 2010. A summary of the traffic data is presented in *Figure 47*, and the field review is presented in *Figure 48*.

This intersection has single left-turn bays for all approaches. The signal operation is protected/permissive for all left-turns.

The intersection presents large offsets between all opposing left-turn bays where several permitted left-turn vehicles searching gaps in the opposing through traffic could be contained in the middle of the intersection. Higher potential conflicts between eastbound/westbound permitted left-turn movements and the opposing through traffic were noticed along SW 104 Street than SW 147 Avenue.



It was also noticed that the number of left-turn vehicles exceeds the storage capacity of the turn bays in all approaches and spills over the through lanes.

Red light running was observed at the intersection.

The landscape surroundings at the intersection, especially along the west leg present a conflict and should be modified.

#### 3.12.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 147 Avenue and SW 104 Street, the following is recommended:

- Lengthen the northbound, southbound and eastbound left-turn lanes to approximately 300 ft. each.
- Lengthen the westbound left-turn lanes to approximately 200 ft.
- Reducing the offset between left turn lanes by reducing the median width and creating a striped gore at all approaches.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Providing crosswalks, pedestrian features and ADA approved pedestrian ramps at all legs.
- Modifying the landscape in the west leg to improve the sight distance.
- Refurbishing of pavement markings using thermoplastic painting.
- Improving lighting system at the intersection.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 49.





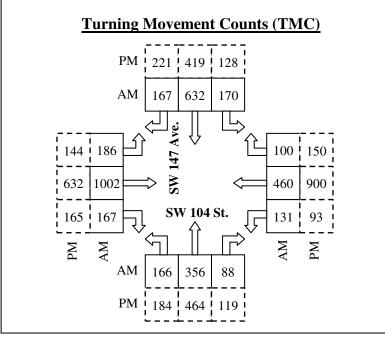


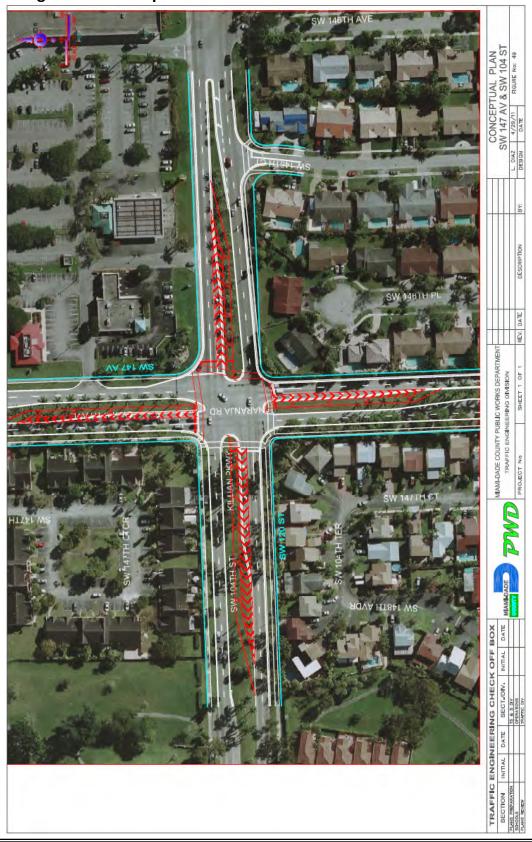
Figure 47: Traffic Data – SW 147 Avenue and SW 104 Street





Figure 48: Field Review – SW 147 Avenue and SW 104 Street





## Figure 49: Conceptual Plan – SW 147 Avenue and SW 104 Street



## 3.13. S. Hammocks Boulevard and SW 104 Street

## 3.13.1. Site Description

This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. S. Hammocks Boulevard is a four lane collector divided by a raised median that runs north-south, and SW 104 Street is a four lane urban arterial divided by a raised median that runs east-west.

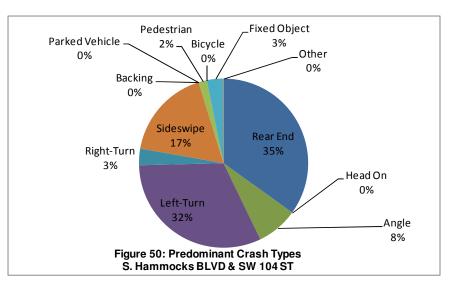
## 3.13.2. Safety Conditions and Analysis

The intersection of S. Hammocks Boulevard and SW 104 Street is ranked number 13 in our high crash locations list. A review of the hard copy police reports for the year 2006 through 2008 was performed. During the three-year analysis period, 63 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 21. The crash summaries, crash statistics and collision diagrams for the intersection are

documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 50*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the



safety conditions at the study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 30* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.822, 1.562, and 1.388, respectively. The safety ratio for the three years averaged 1.591. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that left-turn and fixed object collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 31*.



|                                       | (4   | Lane x 4   | Lane, Si  | Hanalized,         | With Turn I                | anes. 4 L    | eq Intersecti                   | on-Divided-T  | able28) - URF       | B) - URBAN Spot                  |             |                              |          |  |  |
|---------------------------------------|--|------------|-----------|--------------------|----------------------------|--------------|---------------------------------|---------------|---------------------|----------------------------------|-------------|------------------------------|----------|--|--|
|                                       | (.   |            |           |                    |                            |              | J.                              |               |                     |                                  |             |                              | ODACUE   |  |  |
|                                       | TYPE OF CRASH                                  |            | TR OF CF  |                    | 3 YEAR<br>TOTAL            | %<br>of      | MEAN<br>Accidents               | MEAN          | 90th                | ASH VALUE<br>95th                | Mean        | 90th                         | 95th     |  |  |
| COLLISION TYPE                        | Rear End                                       | 2006       | 2007<br>8 | 2008               | CRASHE<br>22               | Total<br>17% | per Year<br>7.33                | 5.70          | Percentile<br>16.96 | 19.12                            | x           | Percentil                    | Percent  |  |  |
|                                       | Head On  | 0          | Ō         | 0                  | 0                          | 0%           | 0.00                            | 0.33          | 1.02                | 1.15                             |             |                              |          |  |  |
|                                       | Angle  | 1          | 1         | 3                  | 5                          | 3%           | 1.67                            | 3.05          | 7.08                | 7.85                             |             |                              |          |  |  |
|                                       | Left Turn<br>Right Turn                        | 6<br>1     | 9<br>1    | 5                  | 20<br>2                    | 12%<br>1%    | 6.67<br>0.67                    | 1.67<br>0.33  | 4.02                | 4.47<br>1.42                     | X           | X                            | x        |  |  |
|                                       | Sideswipe                                      | 6          | 2         | 3                  | 11                         | 6%           | 3.67                            | 1.60          | 4.64                | 5.22                             | X           |                              |          |  |  |
|                                       | Backed Into                                    | 0          | 0         | 0                  | 0                          | 0%           | 0.00                            | 0.17          | 0.56                | 0.63                             |             |                              |          |  |  |
|                                       | Coll. w/ Parked Car                            | 0          | 0         | 0                  | 0                          | 0%           | 0.00                            | 0.10          | 0.51                | 0.59                             |             |                              |          |  |  |
|                                       | Coll. w/ Pedestrian<br>Coll. w/ Bicycle        | 1          | 0         | 0                  | 1                          | 1%<br>0%     | 0.33 0.00                       | 0.28          | 1.04<br>0.33        | 1.19<br>0.38                     | X           |                              |          |  |  |
|                                       | Fixed Object                                   | 2          | 0         | 0                  | 2                          | 1%           | 0.00                            | 0.09          | 0.33                | 0.38                             | x           | х                            | x        |  |  |
|                                       | Ran Off Road                                   | 0          | 0         | 0                  | 0                          | 0%           | 0.00                            | 0.00          | 0.00                | 0.00                             | ~           | ~                            | - ^      |  |  |
|                                       | Overtuned                                      | 0          | 0         | 0                  | 0                          | 0%           | 0.00                            | 0.03          | 0.21                | 0.24                             |             |                              |          |  |  |
|                                       | Other  | 0          | 0         | 0                  | 0                          | 0%           | 0.00                            | 3.70          | 8.83                | 9.82                             |             |                              |          |  |  |
| SEVERITY                              | Total Crashes<br>PDO crashes                   | 24<br>19   | 21<br>17  | 18<br>16           | 63<br>52                   | 23%<br>83%   | 21.00<br>17.33                  | 17.77<br>9.93 | 40.96<br>22.30      | 45.39<br>24.67                   | X           |                              |          |  |  |
|                                       | Fatal crashes                                  | 0          | 0         | 0                  | 0                          | 0%           | 0.00                            | 0.05          | 0.26                | 0.29                             | ^           |                              |          |  |  |
|                                       | Injury crashes                                 | 5          | 4         | 2                  | 11                         | 17%          | 3.67                            | 13.14         | 33.08               | 36.90                            |             |                              | l —      |  |  |
| IGHT CONDITIONS                       | Day Light                                      | 16         | 8         | 11                 | 35                         | 56%          | 11.67                           | 12.40         | 29.18               | 32.39                            |             |                              |          |  |  |
|                                       | Dusk   | 0          | 1         | 1                  | 2                          | 3%           | 0.67                            | 0.28          | 0.87                | 0.98                             | X           |                              |          |  |  |
|                                       | Dawn   | 0          | 1         | 0                  | 1                          | 2%           | 0.33                            | 0.17          | 0.56                | 0.63                             | X           |                              |          |  |  |
|                                       | Dark<br>Unknown                                | 8<br>0     | 11<br>0   | 6<br>0             | 25<br>0                    | 40%<br>0%    | 8.33<br>0.00                    | 4.56<br>0.35  | 10.53               | 11.68<br>1.18                    | Х           |                              | I        |  |  |
| SURFACE CONDITIONS                    |  | 10         | 17        | 15                 | 42                         | 67%          | 14.00                           | 15.30         | 34.45               | 38.12                            |             |                              |          |  |  |
|                                       | Wet  | 1          | 4         | 3                  | 8                          | 13%          | 2.67                            | 2.10          | 6.02                | 6.76                             | х           |                              |          |  |  |
|                                       | Others   | 13         | 0         | 0                  | 13                         | 21%          | 4.33                            | 0.37          | 1.10                | 1.24                             | X           | х                            | х        |  |  |
| MONTH OF A YEAR                       | January  | 1          | 0         | 0                  | 1                          | 2%           | 0.33                            | 1.42          | 3.33                | 3.69                             |             |                              |          |  |  |
|                                       | February                                       | 4          | 1         | 3                  | 8                          | 13%          | 2.67                            | 1.42          | 3.53                | 3.93                             | X           |                              |          |  |  |
|                                       | March<br>April                                 | 5          | 5         | 1                  | 11                         | 17%<br>11%   | 3.67<br>2.33                    | 1.67<br>1.30  | 4.12<br>3.21        | 4.59<br>3.57                     | X           |                              |          |  |  |
|                                       | May  | 3          | 2         | 2                  | 8                          | 13%          | 2.33                            | 1.30          | 4.46                | 4.99                             | x           |                              |          |  |  |
|                                       | June   | 0          | 2         | 1                  | 3                          | 5%           | 1.00                            | 1.38          | 3.49                | 3.90                             | ~           |                              |          |  |  |
|                                       | July   | 1          | 2         | 3                  | 6                          | 10%          | 2.00                            | 1.35          | 3.22                | 3.58                             | Х           |                              |          |  |  |
|                                       | August   | 2          | 2         | 2                  | 6                          | 10%          | 2.00                            | 1.56          | 3.99                | 4.46                             | Х           |                              |          |  |  |
|                                       | September                                      | 1          | 4         | 0                  | 5                          | 8%           | 1.67                            | 1.46          | 3.73                | 4.16                             | X           |                              |          |  |  |
|                                       | October  | 2          | 0         | 0                  | 2                          | 3%           | 0.67                            | 1.47          | 3.59                | 4.00                             |             |                              |          |  |  |
|                                       | November<br>December                           | 1          | 1         | 2                  | 4                          | 6%<br>3%     | 1.33<br>0.67                    | 1.39<br>1.61  | 3.53<br>4.43        | 3.94<br>4.97                     |             |                              |          |  |  |
| DAY OF THE WEEK                       | Sunday   | 3          | 2         | 0                  | 5                          | 8%           | 1.67                            | 1.46          | 3.47                | 3.85                             | х           |                              |          |  |  |
|                                       | Monday   | 3          | 3         | 7                  | 13                         | 21%          | 4.33                            | 2.70          | 6.42                | 7.13                             | X           |                              |          |  |  |
|                                       | Tuesday  | 7          | 4         | 3                  | 14                         | 22%          | 4.67                            | 2.49          | 6.18                | 6.88                             | Х           |                              |          |  |  |
|                                       | Wednesday                                      | 2          | 3         | 1                  | 6                          | 10%          | 2.00                            | 2.56          | 5.84                | 6.47                             |             |                              |          |  |  |
|                                       | Thursday                                       | 4          | 1         | 3                  | 8                          | 13%          | 2.67                            | 2.88<br>3.07  | 7.20                | 8.03                             | x           |                              |          |  |  |
|                                       | Friday<br>Saturday                             | 3          | 5         | 4                  | 12<br>5                    | 19%<br>8%    | 4.00<br>1.67                    | 2.61          | 7.50<br>6.40        | 8.35<br>7.13                     | ^           |                              | <u> </u> |  |  |
| HOUR OF THE DAY                       | 00:00-06:00                                    | 0          | 1         | 2                  | 3                          | 5%           | 1.00                            | 1.70          | 3.39                | 3.71                             |             |                              |          |  |  |
|                                       | 06:00-09:00                                    | 1          | 0         | 1                  | 2                          | 3%           | 0.67                            | 1.98          | 5.12                | 5.72                             |             |                              |          |  |  |
|                                       | 09:00-11:00                                    | 0          | 1         | 1                  | 2                          | 3%           | 0.67                            | 1.72          | 4.23                | 4.71                             |             |                              |          |  |  |
|                                       | 11:00-13:00                                    | 4          | 2         | 2                  | 8                          | 13%          | 2.67                            | 2.40          | 6.30                | 7.05                             | X           |                              | L        |  |  |
|                                       | 13:00-15:00<br>15:00-18:00                     | 2          | 1         | 3                  | 6<br>15                    | 10%<br>24%   | 2.00<br>5.00                    | 1.95<br>3.58  | 5.32<br>7.81        | 5.96<br>8.62                     | X           |                              |          |  |  |
|                                       | 18:00-24:00                                    | 9          | 13        | 5                  | 27                         | 43%          | 9.00                            | 4.42          | 10.63               | 11.82                            | X           |                              |          |  |  |
|                                       |  |            |           |                    | · · ·                      |              |                                 |               |                     |                                  |             | •                            |          |  |  |
|                                       |  |            |           |                    |                            | YEAR         |                                 | 3-Year        |                     |                                  |             |                              |          |  |  |
|                                       |  |            |           |                    | 1                          | 2            | 3                               | Average       |                     |                                  |             |                              |          |  |  |
| Average Daily Traffic A               | DT (Vehicles per D                             | ay)        |           |                    | 33,810                     | 34,500       | 35,204                          | 34,505        | 1                   |                                  |             |                              |          |  |  |
| -lorida Average Crash                 | rate (Crashes per I                            | Million En | tering Ve | hicles)            | 0.420                      | 0.424        | 0.394                           | 0.413         | 1                   |                                  |             |                              |          |  |  |
|                                       | - ,  |            | 3 -       | -7                 |                            |              |                                 |               | 1                   |                                  |             |                              |          |  |  |
| Traffic Base                          | ,  |            |           |                    | 12.341                     | 12.592       | 12.849                          | 12.594        | 4                   |                                  |             |                              |          |  |  |
| Actual Crash Rate (Cr                 | ashes per Million El                           | ntering V  | enicles)  |                    | 1.945                      | 1.668        | 1.401                           | 1.671         | 1                   |                                  |             |                              |          |  |  |
| Critical Crash Rate (C                | rashes per Million E                           | Intering V | (ehicles) |                    | 1.067                      | 1.067        | 1.009                           | 1.048         | 1                   |                                  |             |                              |          |  |  |
| Safety Ratio                          |  | -          |           |                    | 1.822                      | 1.562        | 1.388                           | 1.591         | 1                   |                                  |             |                              |          |  |  |
|                                       | 22   |            |           |                    | YES                        | YES          |                                 |               | 1                   |                                  |             |                              |          |  |  |
|                                       |  | 0.000      |           | Where:             | 123                        | 123          | 123                             | 123           |                     |                                  |             |                              |          |  |  |
| High Crash Location<br>Actual Crash I | $Rate = \frac{A \times 1,000}{V}$              | 0,000      |           |                    |                            | f crashes    |                                 | YES           | y type occurrin     | ng in a 1 year                   | period.     |                              |          |  |  |
|                                       | $ate = AVR + \frac{0.5}{TB} + T$               |            | 2         | TB = Tr<br>TF = Te | affic Base<br>st Factor (z | -value)      | rash Rate for<br>Infidence Leve |               |                     | Confidence I                     | Level (%)   | Constant Z                   | ]        |  |  |
| Traffic Base =                        | $\frac{Years \times ADT \times 36}{1,000,000}$ | 00         |           |                    |                            |              | Confidence L                    |               |                     | 86.60<br>90.00<br>95.00<br>95.50 | )<br>)<br>) | 1.50<br>1.64<br>1.96<br>2.00 |          |  |  |
| Safety Ratio                          | = <u>Actual Crash</u><br>Critical Crash        | Rate       | _         |                    |                            |              |                                 |               |                     | 98.80<br>99.00<br>99.70          | )           | 2.50<br>2.58<br>3.00         |          |  |  |

# Table 30 – Crash Analysis – S. Hammocks Boulevard and SW 104 Street



# Table 31 – Abnormal Crash Details & CountermeasuresS. Hammocks Boulevard and SW 104 Street

|              |                     | Hamm  | ocks Bl                    | vd & S\                    | N 104 S                    | Street                     |                                     |  |             |            |
|--------------|---------------------|---|----------------------------|----------------------------|----------------------------|----------------------------|-------------------------------------|--|-------------|------------|
|              | (4 Lane x 4 Lane    | , Signalized, With  | Turn Lanes                 | s, 4 Leg li                | ntersectio                 | n-Divided-T                | able28) - I                         | URBAN Spo                                    | t           |            |
|              |                     |   |                            |                            |                            |                            |                                     |  |             |            |
|              |                     |   |                            |                            |                            | 1                          | 1                                   |  |             |            |
|              |                     |   | NUMBE                      | ROFCR                      | ASHES                      | 3 YEAR                     | %                                   | MEAN   | Possible    | Counter-   |
|              |                     |   | 2006                       | YEAR<br>2007               | 0000                       | TOTAL                      | of                                  | Accidents                                    | Cause(s)    | measure(s) |
|              | Total Left Tu       | n Crachoc   | 2006                       | 2007                       | 2008<br>5                  | CRASHE                     | Total                               | per Year                                     | (6)         | 9          |
|              | TOLAI LEIL TUI      | Day Light   | 4                          | 9<br>4                     | - 5<br>- 1                 | <b>20</b><br>9             | <b>100%</b><br>45%                  | 6.67<br>3.00                                 | (8)         | 9<br>12    |
|              | Lighting Conditions | Dawn  | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.00   | (13)        | 13         |
|              | Lighting conditions | Dark  | 2                          | 5                          | 4                          | 11                         | 55%                                 | 3.67   | (10)        | 10         |
|              |                     | 00:00 - 06:00   | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.00   |             |            |
|              |                     | 06:00 - 09:00   | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.00   |             |            |
|              |                     | 09:00 - 11:00   | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.00   |             |            |
|              | Hours of Day        | 11:00 - 13:00   | 1                          | 1                          | 1                          | 3                          | 15%                                 | 1.00   |             |            |
| Left Turn    |                     | 13:00 - 15:00   | 1                          | 0                          | 1                          | 2                          | 10%                                 | 0.67   |             |            |
|              |                     | 15:00 - 18:00   | 2                          | 1                          | 1                          | 4                          | 20%                                 | 1.33   |             |            |
|              |                     | 18:00 - 24:00   | 2                          | 7                          | 2                          | 11                         | 55%                                 | 3.67   |             |            |
|              |                     | $NB \rightarrow WB$   | 0                          | 1                          | 0                          | 1                          | 5%                                  | 0.33   |             |            |
|              |                     | $WB \rightarrow SB$   | 1                          | 6                          | 2                          | 9                          | 45%                                 | 3.00   |             |            |
|              | Direction           | $SB \rightarrow EB$   | 3                          | 0                          | 1                          | 4                          | 20%                                 | 1.33   |             |            |
|              |                     | $EB \rightarrow NB$   | 2                          | 2                          | 2                          | 6                          | 30%                                 | 2.00   |             |            |
|              |                     | Unknown   | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.00   |             |            |
|              |                     |   |                            |                            |                            |                            |                                     |  |             |            |
|              |                     |   |                            |                            |                            |                            |                                     |  |             |            |
|              |                     |   | NUMBE                      | ROFCR                      | ASHES                      | 3 YEAR                     | %                                   | MEAN   | Possible    | Counter-   |
|              |                     |   | 0000                       | YEAR                       | 0000                       | TOTAL                      | of                                  | Accidents                                    | Cause(s)    | measure(s) |
|              | Total Fixed Ob      | iaat Craabaa  | 2006                       | 2007                       | 2008                       | CRASHE                     | Total                               | per Year                                     | (0)         |            |
|              | Total Fixed Ob      | ·   | 2                          | 0                          | 0                          | <b>2</b>                   | <b>100%</b><br>50%                  | 0.67   | (2)         | 5<br>12    |
|              | Lighting Conditions | Day Light<br>Dawn   | 0                          | 0                          | 0                          | 0                          | 50%<br>0%                           | 0.33   | (6)<br>(17) | 12         |
|              | Lighting Conditions | Dawn<br>Dark  | 1                          | 0                          | 0                          | 0                          | 0%<br>50%                           | 0.00   | (17)        | 17         |
|              |                     | 00:00 - 06:00   | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.33   |             |            |
|              |                     | 06:00 - 09:00   | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.00   |             |            |
|              |                     |   |                            | 0                          | U                          | 0                          |                                     |  |             |            |
|              |                     |   | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.00   |             |            |
|              | Hours of Day        | 09:00 - 11:00   | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.00   |             |            |
| Fixed Object | Hours of Day        | 09:00 - 11:00<br>11:00 - 13:00  | 0                          | 0                          | 0                          | 0                          | 0%                                  | 0.00   |             |            |
| Fixed Object | Hours of Day        | 09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00   | 0                          | 0                          | 0                          | 0                          | 0%<br>0%                            | 0.00   |             |            |
| Fixed Object | Hours of Day        | 09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00                                    | 0<br>0<br>1                | 0<br>0<br>0                | 0<br>0<br>0                | 0<br>0<br>1                | 0%<br>0%<br>50%                     | 0.00<br>0.00<br>0.33                         |             |            |
| Fixed Object | Hours of Day        | 09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00                   | 0<br>0<br>1<br>1           | 0<br>0<br>0<br>0           | 0                          | 0<br>0<br>1<br>1           | 0%<br>0%<br>50%<br>50%              | 0.00<br>0.00<br>0.33<br>0.33                 |             |            |
| Fixed Object | Hours of Day        | 09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North          | 0<br>0<br>1<br>1<br>0      | 0<br>0<br>0<br>0<br>0      | 0<br>0<br>0<br>0           | 0<br>0<br>1<br>1<br>0      | 0%<br>0%<br>50%<br>50%<br>0%        | 0.00<br>0.00<br>0.33<br>0.33<br>0.00         |             |            |
| Fixed Object | Hours of Day        | 09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South | 0<br>0<br>1<br>1           | 0<br>0<br>0<br>0           | 0<br>0<br>0<br>0<br>0      | 0<br>0<br>1<br>1           | 0%<br>0%<br>50%<br>50%              | 0.00<br>0.00<br>0.33<br>0.33                 |             |            |
| Fixed Object |                     | 09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North          | 0<br>0<br>1<br>1<br>0<br>1 | 0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>1<br>1<br>0<br>1 | 0%<br>0%<br>50%<br>50%<br>0%<br>50% | 0.00<br>0.00<br>0.33<br>0.33<br>0.00<br>0.33 |             |            |

## 3.13.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at S. Hammocks Boulevard and SW 104 Street were performed on a typical weekday on November 18, 2010. A summary of the traffic data is presented in *Figure 51*, and the field review is presented in *Figure 52*.

This intersection has single left-turn bays for all approaches. The signal operation is protected/permissive for all left-turns.

The intersection presents large offsets between eastbound/westbound opposing left-turn bays where several permitted left-turn vehicles searching gaps in the opposing through traffic could be contained in the middle of the intersection. Higher potential conflicts between eastbound/westbound permitted left-turn movements and the opposing through traffic were noticed along the intersection.



It was also noticed that the number of left-turn vehicles exceeds the storage capacity of the turn bays in eastbound and westbound approaches and spills over the through lanes.

Lack of lighting was observed at the intersection.

The driveways at the northeast corner and the corresponding median openings present conflict between the vehicles in/out of the driveway and the through traffic.

#### 3.13.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of S. Hammocks Boulevard and SW 104 Street, the following is recommended:

- Lengthen the eastbound left-turn lane to approximately 300 ft and closing the median opening.
- Lengthen the westbound left-turn lane to approximately 450 ft.
- Reducing the offset between eastbound/westbound left turn lanes by reducing the median width and creating a striped gore at all approaches.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Modifying the median noses for north/south legs to provide clear pedestrian paths.
- Installing curve warning (W1-2R) and signal ahead (W3-3) signs for northbound approach.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.
- Improving lighting system at the intersection.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 53.





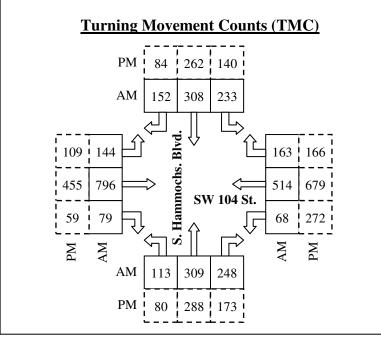








Figure 52: Field Review – S. Hammocks Boulevard and SW 104 Street





Figure 53: Conceptual Plan – S. Hammocks Boulevard and SW 104 Street



### 3.14. NW 87 Avenue and NW 25 Street

## 3.14.1. Site Description

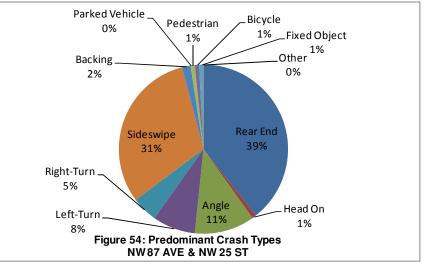
This intersection is a signalized four legged intersection located in the northwest part of Miami Dade County in the City of Doral. NW 87 Avenue is a four lane urban arterial divided by a raised median that runs north-south, and NW 25 Street is a six lane urban arterial divided by a paved median that runs east-west.

### 3.14.2. Safety Conditions and Analysis

The intersection of NW 87 Avenue and NW 25 Street is ranked number 14 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 122 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 41. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 54*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 32* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.493, 1.798, and 2.037, respectively. The safety ratio for the three years averaged 1.776. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that right-turn and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 33*.



|                        |  | (6   ano                  | v 4 Lano        |            |                           |              | A Leg Inters                 |               | 9 35) - URBAN       | Spot  |             |  |         |
|------------------------|--|---------------------------|-----------------|------------|---------------------------|--------------|------------------------------|---------------|---------------------|---|-------------|--|---------|
|                        |  |                           |                 |            |                           |              |                              |               |                     | -   |             |  | 0040115 |
|                        | TYPE OF CRASH                                  |                           | R OF CF<br>YEAR |            | 3 YEAR<br>TOTAL           | %<br>of      | MEAN<br>Accidents            | MEAN          | 90th                | ASH VALUE   | Mean        | 90th   | 95th    |
| OLLISION TYPE          | Rear End                                       | 2006                      | 2007<br>20      | 2008<br>16 | CRASHE<br>48              | Total<br>20% | 16.00                        | 8.68          | Percentile<br>17.26 | Percentile<br>18.90                                       | x           | Percentil  | Percent |
|                        | Head On  | 1                         | 0               | 0          | 1                         | 0%           | 0.33                         | 0.60          | 1.64                | 1.84  |             |  |         |
|                        | Angle  | 5                         | 3               | 6          | 14                        | 5%           | 4.67                         | 5.40          | 9.19                | 9.92  |             |  |         |
|                        | Left Turn                                      | 3                         | 1               | 6          | 10                        | 3%           | 3.33                         | 3.00          | 6.13                | 6.73  | X           |  |         |
|                        | Right Turn                                     | 1                         | 3<br>13         | 2<br>14    | 6<br>38                   | 2%<br>10%    | 2.00<br>12.67                | 0.46          | 1.36<br>4.92        | 1.53  | X<br>X      | X<br>X   | X       |
|                        | Sideswipe<br>Backed Into                       | 0                         | 13              | 14         | 2                         | 10%          | 0.67                         | 2.58<br>0.28  | 0.84                | 5.37<br>0.94  | x           | ^  | ^       |
|                        | Coll. w/ Parked Car                            | 0                         | 0               | 0          | 0                         | 0%           | 0.00                         | 0.12          | 0.57                | 0.65  | ~           |  |         |
|                        | Coll. w/ Pedestrian                            | 0                         | 0               | 1          | 1                         | 0%           | 0.33                         | 0.74          | 1.80                | 2.00  |             |  |         |
|                        | Coll. w/ Bicycle                               | 0                         | 0               | 1          | 1                         | 0%           | 0.33                         | 0.14          | 0.49                | 0.55  | Х           |  |         |
|                        | Fixed Object                                   | 1                         | 0               | 0          | 1                         | 0%           | 0.33                         | 0.79          | 2.01                | 2.24  |             |  |         |
|                        | Ran Off Road                                   | 0                         | 0               | 0          | 0                         | 0%           | 0.00                         | 0.01          | 0.11                | 0.13  |             |  |         |
|                        | Overtuned<br>Other                             | 0                         | 0               | 0          | 0                         | 0%<br>0%     | 0.00                         | 0.04 8.67     | 0.28 21.05          | 0.33 23.42  |             |  |         |
|                        | Total Crashes                                  | 34                        | 41              | 47         | 122                       | 24%          | 40.67                        | 31.51         | 54.94               | 59.42   | x           |  |         |
| EVERITY                | PDO crashes                                    | 34                        | 40              | 42         | 116                       | 95%          | 38.67                        | 19.21         | 36.95               | 40.35   | X           | Х  |         |
|                        | Fatal crashes                                  | 0                         | 0               | 0          | 0                         | 0%           | 0.00                         | 0.16          | 0.56                | 0.63  |             |  |         |
|                        | Injury crashes                                 | 0                         | 1               | 5          | 6                         | 5%           | 2.00                         | 20.77         | 38.34               | 41.71   |             |  |         |
| IGHT CONDITIONS        | Day Light                                      | 26                        | 36              | 37         | 99                        | 81%          | 33.00                        | 19.89         | 35.12               | 38.03   | Х           |  |         |
|                        | Dusk   | 0                         | 1               | 0          | 1                         | 1%           | 0.33                         | 0.61          | 1.43                | 1.58  |             |  |         |
|                        | Dawn<br>Dark                                   | 0                         | 0               | 0<br>10    | 0 22                      | 0%<br>18%    | 0.00 7.33                    | 0.38          | 1.03<br>18.94       | 1.16<br>20.61   |             |  | I       |
|                        | Unknown  | 8                         | 4               | 0          | 22                        | 0%           | 0.00                         | 0.41          | 18.94               | 1.30  |             |  |         |
| URFACE CONDITIONS      |  | 26                        | 35              | 43         | 104                       | 85%          | 34.67                        | 26.41         | 45.71               | 49.41   | x           |  |         |
|                        | Wet  | 2                         | 6               | 3          | 11                        | 9%           | 3.67                         | 4.41          | 8.78                | 9.62  |             |  | 1       |
|                        | Others   | 6                         | 0               | 1          | 7                         | 6%           | 2.33                         | 0.69          | 1.88                | 2.11  | Х           | х  | х       |
| IONTH OF A YEAR        | January  | 3                         | 2               | 1          | 6                         | 5%           | 2.00                         | 2.57          | 5.04                | 5.52  |             |  |         |
|                        | February                                       | 4                         | 3               | 4          | 11                        | 9%           | 3.67                         | 2.37          | 4.59                | 5.02  | X           |  |         |
|                        | March  | 2                         | 6               | 3          | 11                        | 9%           | 3.67                         | 3.09          | 5.92                | 6.46  | X           |  |         |
|                        | April<br>May                                   | 2                         | 4               | 4<br>5     | 10                        | 8%<br>6%     | 3.33<br>2.33                 | 2.57<br>2.51. | 5.30<br>4.81        | 5.82  | Х           |  |         |
|                        | June   | 0                         | 9               | 6          | 15                        | 12%          | 5.00                         | 2.51.         | 5.74                | 5.25<br>6.30  | x           |  |         |
|                        | July   | 4                         | 3               | 3          | 10                        | 8%           | 3.33                         | 2.60          | 4.96                | 5.42  | - Â         |  |         |
|                        | August   | 4                         | 3               | 4          | 11                        | 9%           | 3.67                         | 3.00          | 5.66                | 6.17  | X           |  |         |
|                        | September                                      | 4                         | 0               | 6          | 10                        | 8%           | 3.33                         | 2.48          | 4.92                | 5.39  | Х           |  |         |
|                        | October  | 3                         | 4               | 5          | 12                        | 10%          | 4.00                         | 2.89          | 5.40                | 5.88  | Х           |  |         |
|                        | November                                       | 4                         | 3               | 4          | 11                        | 9%           | 3.67                         | 2.41          | 4.85                | 5.32  | X           |  |         |
|                        | December                                       | 3                         | 3               | 2          | 8                         | 7%           | 2.67                         | 2.22          | 4.55                | 5.00  | Х           |  |         |
| AY OF THE WEEK         | Sunday   | 1                         | 2               | 3<br>10    | 6<br>27                   | 5%<br>22%    | 2.00<br>9.00                 | 4.00<br>4.62  | 6.58<br>9.23        | 7.08  | x           |  |         |
|                        | Monday<br>Tuesday                              | 4                         | 9<br>4          | 3          | 11                        | 9%           | 9.00<br>3.67                 | 4.62          | 9.23                | 8.46  | ^           |  |         |
|                        | Wednesday                                      | 5                         | 10              | 9          | 24                        | 20%          | 8.00                         | 4.56          | 8.62                | 9.40  | х           |  |         |
|                        | Thursday                                       | 2                         | 8               | 7          | 17                        | 14%          | 5.67                         | 5.04          | 9.04                | 9.80  | X           |  |         |
|                        | Friday   | 9                         | 6               | 12         | 27                        | 22%          | 9.00                         | 4.86          | 9.39                | 10.26   | Х           |  |         |
|                        | Saturday                                       | 5                         | 2               | 3          | 10                        | 8%           | 3.33                         | 3.98          | 8.10                | 8.89  |             |  |         |
| IOUR OF THE DAY        | 00:00-06:00                                    | 2                         | 1               | 4          | 7                         | 6%           | 2.33                         | 3.79          | 8.65                | 9.58  |             |  |         |
|                        | 06:00-09:00<br>09:00-11:00                     | 8                         | 1               | 9          | 18<br>15                  | 15%<br>12%   | 6.00<br>5.00                 | 3.44          | 6.94                | 7.61  | X           |  |         |
|                        | 11:00-13:00                                    | 4                         | 5<br>5          | 6<br>4     | 15                        | 12%          | 4.00                         | 2.58<br>3.12  | 5.30<br>5.78        | 5.82<br>6.29  | x           |  |         |
|                        | 13:00-15:00                                    | 7                         | 4               | 6          | 17                        | 14%          | 5.67                         | 3.57          | 6.32                | 6.85  | x           |  |         |
|                        | 15:00-18:00                                    | 6                         | 13              | 13         | 32                        | 26%          | 10.67                        | 6.38          | 11.52               | 12.50   | X           |  |         |
|                        | 18:00-24:00                                    | 4                         | 12              | 5          | 21                        | 17%          | 7.00                         | 8.60          | 15.51               | 16.83   |             |  |         |
|                        |  |                           |                 |            |                           |              |                              | <u></u>       | <b>-</b>            |   |             |  |         |
|                        |  |                           |                 |            | <u> </u>                  | YEAR         |                              | 3-Year        |                     |   |             |  |         |
|                        |  |                           |                 |            | 1                         | 2            | 3                            | Average       | -                   |   |             |  |         |
| verage Daily Traffic A | ADT (Vehicles per D                            | lay)                      |                 |            | 53,217                    | 54,303       | 55,411                       | 54,310        |                     |   |             |  |         |
| lorida Average Crash   | rate (Crashes per l                            | Million En                | tering Ve       | hicles)    | 0.579                     | 0.568        | 0.566                        | 0.571         | 1                   |   |             |  |         |
| raffic Base            | ,  |                           | 3 -             | -/         |                           |              |                              | 19.823        | 1                   |   |             |  |         |
|                        |  |                           |                 |            | 19.424                    | 19.821       | 20.225                       |               | 4                   |   |             |  |         |
| ctual Crash Rate (Cr   | rashes per Million E                           | ntering V                 | ehicles)        |            | 1.750                     | 2.069        | 2.324                        | 2.048         | 1                   |   |             |  |         |
| Critical Crash Rate (C | rashes per Million E                           | ntering V                 | ehicles)        |            | 1.173                     | 1.150        | 1.141                        | 1.155         | 1                   |   |             |  |         |
| afety Ratio            |  | -                         | ,               |            | 1.493                     | 1.798        | 2.037                        | 1.776         | 1                   |   |             |  |         |
|                        | 22   |                           |                 |            |                           |              |                              |               | 1                   |   |             |  |         |
| ligh Crash Location    | 77   |                           |                 |            | YES                       | YES          | YES                          | YES           |                     |   |             |  |         |
| Actual Crash           | $Rate = \frac{A \times 1,000}{V}$              | 0,000                     |                 |            | al number o<br>rage Annua |              |                              | f crashes by  | type occurri        | ng in a 1 year  | period.     |  |         |
| CriticalCrashR         | $ate = AVR + \frac{0.5}{TB} + 7$               | $TF\sqrt{\frac{AVH}{TB}}$ | 2               | TB = Tr    | affic Base                |              | ash Rate for                 | a particular  | type of interse     | ection or road  |             |  | -11     |
| Traffic Base =         | $\frac{Years \times ADT \times 36}{1,000,000}$ | <u>65</u>                 |                 | = 1.       |                           | 95% Cor      | nfidence Lev<br>Confidence L |               |                     | Confidence I<br>68.30<br>86.60<br>90.00<br>95.00<br>95.00 | )<br>)<br>) | Constant Z<br>1.00<br>1.50<br>1.64<br>1.96<br>2.00 |         |
| Safety Ratio           | $= \frac{Actual Crash}{Critical Crash}$        | n Rate<br>h Rate          | -               |            |                           |              |                              |               |                     | 95.50<br>98.80<br>99.00<br>99.70<br>99.95                 | )<br>)<br>) | 2.00<br>2.50<br>2.58<br>3.00<br>3.29               |         |

# Table 32 – Crash Analysis – NW 87 Avenue and NW 25 Street



# Table 33 – Abnormal Crash Details & CountermeasuresNW 87 Avenue and NW 25 Street

|                         |                                     | NW  | 87 Aven   | ue & N   | W 25 St   | treet  |   |   |                         |                                    |
|-------------------------|-------------------------------------|---|---|--|---|--|---|---|-------------------------|------------------------------------|
|                         | (6 Lane x 4 I                       | Lane, Signalized,   | With Turn L   | anes, 4 L  | eg Interse  | ection -Table  | 35) - URE   | SAN Spot  |                         |                                    |
|                         |                                     |   |   |  |   |  |   |   |                         |                                    |
|                         |                                     |   | _   | R OF CR  |   | 3 YEAR<br>TOTAL  | %<br>of   | MEAN<br>Accidents   | Possible<br>Cause(s)    | Counter-<br>measure(s)             |
|                         |                                     |   | 2006  | 2007   | 2008  | CRASHES  | Total   | per Year  | ()                      |                                    |
|                         | Total Right Tu                      |   | 1   | 3  | 2   | 6  | 100%  | 2.00  | (8)                     | 13                                 |
|                         |                                     | Day Light   | 1   | 3  | 2   | 6  | 100%  | 2.00  | (9)                     | 21                                 |
|                         | Lighting Conditions                 | Dawn  | 0   | 0  | 0   | 0  | 0%  | 0.00  | (13)                    |                                    |
|                         |                                     | Dark  | 0   | 0  | 0   | 0  | 0%  | 0.00  |                         |                                    |
|                         |                                     | 00:00 - 06:00   | 0   | 0  | 0   | 0  | 0%  | 0.00  |                         |                                    |
|                         |                                     | 06:00 - 09:00   | 1   | 1  | 0   | 2  | 33%   | 0.67  |                         |                                    |
|                         |                                     | 09:00 - 11:00   | 0   | 0  | 1   | 1  | 17%   | 0.33  |                         |                                    |
| Right Turn              | Hours of Day                        | 11:00 - 13:00   | 0   | 0  | 0   | 0  | 0%  | 0.00  |                         |                                    |
| night fuill             |                                     | 13:00 - 15:00   | 0   | 1  | 0   | 1  | 17%   | 0.33  |                         |                                    |
|                         |                                     | 15:00 - 18:00   | 0   | 1  | 1   | 2  | 33%   | 0.67  |                         |                                    |
|                         |                                     | 18:00 - 24:00   | 0   | 0  | 0   | 0  | 0%  | 0.00  |                         |                                    |
|                         |                                     | NB→EB   | 0   | 1  | 0   | 1  | 17%   | 0.33  |                         |                                    |
|                         |                                     | EB→SB   | 0   | 0  | 0   | 0  | 0%  | 0.00  |                         |                                    |
|                         | Direction                           | WB→NB   | 0   | 2  | 0   | 2  | 33%   | 0.67  |                         |                                    |
|                         |                                     |   |   |  |   |  |   |   |                         |                                    |
|                         |                                     | SB→WB   | 1   | 0  | 2   | 3  | 50%   | 1.00  |                         |                                    |
|                         |                                     | SB→WB<br>Unknown  | 1<br>0  | 0  | 2<br>0  | 3<br>0   | 50%<br>0%   | 1.00<br>0.00  |                         |                                    |
|                         |                                     |   |   | -  |   |  |   |   |                         |                                    |
|                         |                                     |   | 0   | 0  | 0   | 0  | 0%  | 0.00  |                         |                                    |
|                         |                                     |   | 0   | 0<br>R OF CF   | 0   | 0<br>3 YEAR  | 0%  | 0.00<br>MEAN  | Possible                | Counter-                           |
|                         |                                     |   | 0<br>NUMBE  | 0<br>R OF CR<br>YEAR   | 0<br>ASHES  | 0  | 0%  | 0.00  |                         | Counter-                           |
|                         |                                     | Unknown   | 0<br>NUMBE<br>2006  | 0<br>R OF CR<br>YEAR<br>2007   | 0<br>ASHES<br>2008  | 0<br>3 YEAR  | 0%<br>%<br>of<br>Total  | 0.00<br>MEAN<br>Accidents<br>per Year   | Cause(s)                | measure(s                          |
|                         | Total Sideswi                       | Unknown<br>pe Crashes   | 0<br>NUMBE<br>2006<br>11  | 0<br>R OF CR<br>YEAR<br>2007<br>13   | 0<br>ASHES<br>2008<br>14  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38  | 0%<br>%<br>of<br>Total<br>100%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67  | Cause(s)<br>(8)         | measure(s                          |
|                         |                                     | Unknown<br>pe Crashes<br>Day Light  | 0<br>NUMBE<br>2006<br>11<br>10  | 0<br>R OF CR<br>YEAR<br>2007   | 0<br>ASHES<br>2008<br>14<br>11  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33  | 0%<br>of<br>Total<br>100%<br>87%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00   | Cause(s)<br>(8)<br>(19) | measure(s)<br>4<br>19              |
|                         | Total Sideswi                       | Unknown<br>pe Crashes   | 0<br>NUMBE<br>2006<br>11  | 0<br>R OF CR<br>YEAR<br>2007<br>13   | 0<br>ASHES<br>2008<br>14<br>11<br>0   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0   | 0%<br>of<br>Total<br>100%<br>87%<br>0%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67  | (8)<br>(19)<br>(20)     | measure(s                          |
|                         |                                     | Unknown<br>pe Crashes<br>Day Light  | 0<br>NUMBE<br>2006<br>11<br>10  | 0<br>R OF CF<br>YEAR<br>2007<br>13<br>12   | 0<br>ASHES<br>2008<br>14<br>11  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33  | 0%<br>of<br>Total<br>100%<br>87%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00   | Cause(s)<br>(8)<br>(19) | measure(s)<br>4<br>19              |
|                         |                                     | Unknown<br>pe Crashes<br>Day Light<br>Dawn  | 0<br>NUMBE<br>2006<br>11<br>10<br>0   | 0<br>R OF CF<br>YEAR<br>2007<br>13<br>12<br>0  | 0<br>ASHES<br>2008<br>14<br>11<br>0   | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0   | 0%<br>of<br>Total<br>100%<br>87%<br>0%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00   | (8)<br>(19)<br>(20)     | <mark>measure(s</mark><br>4<br>19  |
|                         |                                     | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark  | 0<br>NUMBE<br>2006<br>11<br>10<br>0<br>1  | 0<br><b>FR OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>13</b><br>12<br>0<br>1  | 0<br>ASHES<br>2008<br>14<br>11<br>0<br>3  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0<br>5  | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67   | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
|                         |                                     | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00   | 0<br>NUMBE<br>2006<br>11<br>10<br>0<br>1<br>0   | 0<br><b>FR OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>13</b><br>12<br>0<br>1<br>0<br>1<br>0                                   | 0<br><b>ASHES</b><br>2008<br>14<br>11<br>0<br>3<br>1                                  | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0<br>5<br>1   | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%<br>3%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67<br>0.33   | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
| Sideswipe               |                                     | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00  | 0<br>NUMBE<br>2006<br>11<br>10<br>0<br>1<br>0<br>2  | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>13</b><br>12<br>0<br>1<br>0<br>1<br>0<br>1                               | 0<br><b>ASHES</b><br>2008<br>14<br>11<br>0<br>3<br>1<br>3                             | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0<br>5<br>1<br>1<br>6   | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%<br>3%<br>16%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67<br>0.33<br>2.00   | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
| Sideswipe<br>(Overtake) | Lighting Conditions                 | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00   | 0<br>NUMBE<br>2006<br>11<br>10<br>0<br>1<br>0<br>2<br>2<br>2  | 0<br><b>R OF CF</b><br><b>YEAR</b><br><b>2007</b><br><b>13</b><br>12<br>0<br>1<br>0<br>1<br>2                                    | 0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2                               | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0<br>5<br>5<br>1<br>6<br>6  | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%<br>3%<br>16%<br>16%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67<br>0.33<br>2.00<br>2.00   | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
|                         | Lighting Conditions                 | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00  | 0<br>2006<br>11<br>10<br>0<br>1<br>0<br>2<br>2<br>1   | 0<br>YEAR<br>2007<br>13<br>12<br>0<br>1<br>0<br>1<br>0<br>1<br>2<br>1  | 0<br><b>2008</b><br><b>14</b><br>11<br>0<br>3<br>1<br>3<br>2<br>1                     | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0<br>5<br>1<br>6<br>6<br>6<br>3   | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%<br>3%<br>16%<br>16%<br>8%   | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67<br>0.33<br>2.00<br>2.00<br>1.00   | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
|                         | Lighting Conditions                 | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00   | 0<br>2006<br>11<br>10<br>0<br>1<br>0<br>2<br>2<br>1<br>4  | 0<br><b>FR OF CFR</b><br><b>2007</b><br><b>13</b><br>12<br>0<br>1<br>0<br>1<br>2<br>1<br>0<br>1<br>2<br>1<br>0                   | 0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>1<br>1<br>1                | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHES</b><br><b>38</b><br>33<br>0<br>5<br>1<br>6<br>6<br>6<br>3<br>5<br>5                     | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%<br>3%<br>16%<br>16%<br>8%<br>13%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67<br>0.33<br>2.00<br>2.00<br>1.00<br>1.67                                 | (8)<br>(19)<br>(20)     | <mark>measure(s</mark><br>4<br>19  |
| -                       | Lighting Conditions                 | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00                                    | 0<br><b>NUMBE</b><br>2006<br>11<br>10<br>0<br>1<br>0<br>2<br>2<br>1<br>4<br>1                               | 0<br><b>FR OF CF</b><br><b>2007</b><br><b>13</b><br>12<br>0<br>1<br>0<br>1<br>2<br>1<br>0<br>4                                   | 0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>1<br>3<br>2<br>1<br>1<br>4           | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0<br>5<br>1<br>6<br>6<br>6<br>3<br>3<br>5<br>9  | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%<br>3%<br>16%<br>8%<br>13%<br>24%  | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67<br>2.00<br>2.00<br>1.00<br>1.67<br>3.00                                 | (8)<br>(19)<br>(20)     | <mark>measure(s</mark><br>4<br>19  |
| •                       | Lighting Conditions                 | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>15:00 - 24:00<br>North          | 0<br><b>NUMBE</b><br>2006<br>11<br>10<br>0<br>1<br>0<br>2<br>2<br>1<br>4<br>1<br>1<br>1                     | 0<br><b>FR OF CR</b><br><b>2007</b><br><b>13</b><br>12<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>1<br>0<br>4<br>5                    | 0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>1<br>1<br>4<br>2           | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0<br>5<br>1<br>1<br>6<br>6<br>6<br>3<br>5<br>9<br>8<br>8<br>7                             | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%<br>3%<br>16%<br>16%<br>8%<br>16%<br>8%<br>24%<br>24%<br>24%<br>21%<br>18% | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67<br>0.33<br>2.00<br>2.00<br>1.00<br>1.67<br>3.00<br>2.67<br>2.33         | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
|                         | Lighting Conditions                 | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>13:00 - 18:00<br>18:00 - 24:00<br>North<br>South | 0<br><b>NUMBE</b><br>2006<br>11<br>10<br>0<br>1<br>0<br>2<br>2<br>1<br>4<br>1<br>1<br>4<br>1<br>1<br>4<br>1 | 0<br><b>FROF CFR</b><br><b>2007</b><br><b>13</b><br>12<br>0<br>1<br>0<br>1<br>2<br>1<br>0<br>4<br>5<br>2                         | 0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>1<br>1<br>4<br>2<br>1<br>4 | 0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHES</b><br><b>38</b><br>33<br>0<br>5<br>1<br>6<br>6<br>6<br>3<br>5<br>9<br>8<br>7<br>9<br>9 | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%<br>3%<br>16%<br>16%<br>8%<br>16%<br>16%<br>8%<br>24%                      | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67<br>0.33<br>2.00<br>2.00<br>1.00<br>1.67<br>3.00<br>2.67<br>2.33<br>3.00 | (8)<br>(19)<br>(20)     | measure(s)<br>4<br>19              |
|                         | Lighting Conditions<br>Hours of Day | Unknown<br>pe Crashes<br>Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>15:00 - 24:00<br>North          | 0<br><b>NUMBE</b><br>2006<br>11<br>10<br>0<br>1<br>0<br>2<br>2<br>1<br>4<br>1<br>1<br>4                     | 0<br><b>FROFCFR</b><br><b>2007</b><br><b>13</b><br>12<br>0<br>1<br>0<br>1<br>2<br>1<br>0<br>1<br>2<br>1<br>0<br>4<br>5<br>2<br>4 | 0<br>ASHES<br>2008<br>14<br>11<br>0<br>3<br>1<br>3<br>2<br>1<br>1<br>4<br>2<br>1<br>1 | 0<br>3 YEAR<br>TOTAL<br>CRASHES<br>38<br>33<br>0<br>5<br>1<br>1<br>6<br>6<br>6<br>3<br>5<br>9<br>8<br>8<br>7                             | 0%<br>of<br>Total<br>100%<br>87%<br>0%<br>13%<br>3%<br>16%<br>16%<br>8%<br>16%<br>8%<br>24%<br>24%<br>24%<br>21%<br>18% | 0.00<br>MEAN<br>Accidents<br>per Year<br>12.67<br>11.00<br>0.00<br>1.67<br>0.33<br>2.00<br>2.00<br>1.00<br>1.67<br>3.00<br>2.67<br>2.33         | (8)<br>(19)<br>(20)     | <mark>measure(s)</mark><br>4<br>19 |

### 3.14.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at NW 87 Avenue and NW 25 Street were performed on a typical weekday on October 28, 2010. A summary of the traffic data is presented in *Figure 55*, and the field review is presented in *Figure 56*.

This intersection has double left-turn bays for eastbound/westbound approaches, and these two approaches, plus the northbound approach have exclusive right-turn lanes. The signal operation is split phases protected/permissive for left-turn lanes except for eastbound and westbound double left-turns which are protected only.

This intersection handles a large number of heavy vehicles and trucks. Long queues were observed for northbound left-turn with vehicles spilling back and blocking the through lane.



The southbound right-turning vehicles suffer an inadequate turning radius due to the presence of the canal.

Additionally, considerable weaving was observed in the eastbound approach due to the alignment of the through and left turn lanes.

#### 3.14.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of NW 87 Avenue and NW 25 Street, the following is recommended:

- Lengthen the northbound left-turn lane to approximately 450 ft.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Improving the eastbound approach lane alignment at the start of the taper.
- Modifying the southbound right-turn radius to better accommodate heavy vehicles.
- Installing lane use signs (R3-8) for all approaches.
- Replacing the damaged pedestrian push buttons.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 57.





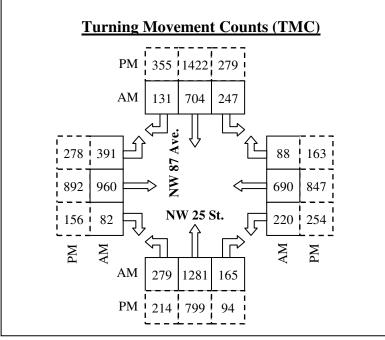


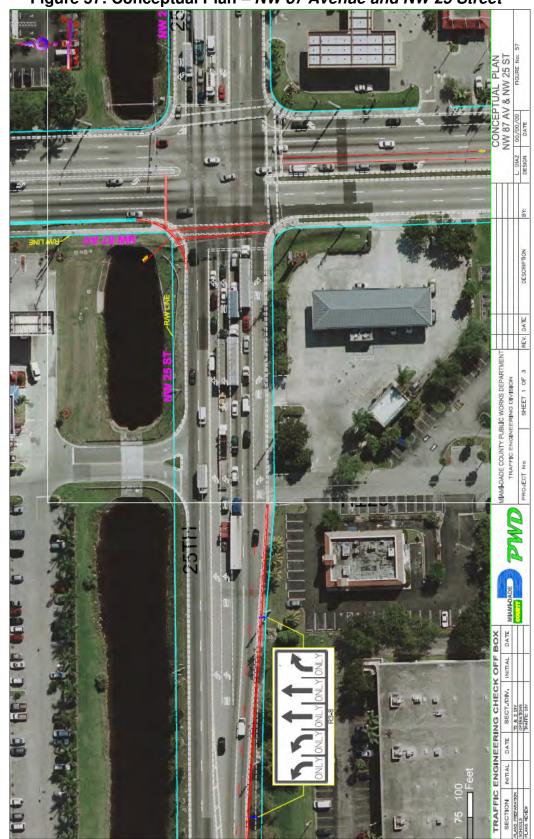
Figure 55: Traffic Data – NW 87 Avenue and NW 25 Street





Figure 56: Field Review – NW 87 Avenue and NW 25 Street





## Figure 57: Conceptual Plan – NW 87 Avenue and NW 25 Street

Safety Studies at High Crash Locations Countywide



## 3.15. SW 117 Avenue and SW 120 Street

#### 3.15.1. Site Description

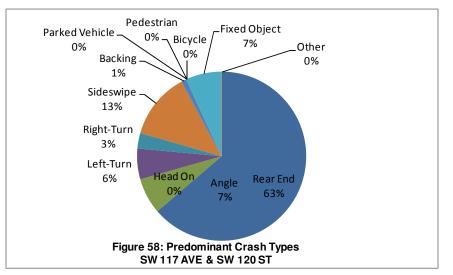
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 117 Avenue is a four lane urban arterial divided by a raised median that runs north-south, and SW 120 Street is a four lane major collector divided by a raised median that runs east-west.

#### 3.15.2. Safety Conditions and Analysis

The intersection of SW 117 Avenue and SW 120 Street is ranked number 15 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 102 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 34. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 58*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 34* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 2.741, 1.893, and 2.697, respectively. The safety ratio for the three years averaged 2.444. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that rear end, angle, left-turn, right-turn, sideswipe, backing and fixed object collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 35*.



|                        |   | (4 Lar                    | ne x 4 Lar | ne, Signal | ized, With                | Turn Lane    | s, T Intersec | tion -Table 2                 | 27) - URBAN S   | Spot                                      |                  |  |               |
|------------------------|---|---------------------------|------------|------------|---------------------------|--------------|---------------|-------------------------------|-----------------|---|------------------|--|---------------|
|                        |   | NUMBE                     | R OF CF    | ASHES      | 3 YEAR                    | %            | MEAN          | EXPECTED                      | ANNUAL CF       | ASH VALUE                                 | ABNORM           |  | CRASHES       |
|                        | TYPE OF CRASH                                 |                           | YEAR       |            | TOTAL                     | of           | Accidents     | MEAN                          | 90th            | 95th                                      | Mean             | 90th   | 95th          |
| COLLISION TYPE         | Rear End                                      | 2006<br>27                | 2007       | 2008<br>21 | CRASHE<br>65              | Total<br>32% | 21.67         | 0.45                          | 1.78            | 2.04                                      | х                | Percentil<br>X                                     | Percenti<br>X |
|                        | Head On                                       | 0                         | 0          | 0          | 0                         | 0%           | 0.00          | 0.09                          | 0.45            | 0.51                                      |                  |  |               |
|                        | Angle   | 1                         | 1          | 5          | 7                         | 3%           | 2.33          | 0.58                          | 1.88            | 2.13                                      | Х                | X  | X             |
|                        | Left Turn                                     | 2                         | 2          | 2          | 6                         | 3%           | 2.00          | 0.18                          | 0.56            | 0.63                                      | Х                | X  | Х             |
|                        | Right Turn                                    | 0                         | 2          | 1          | 3                         | 1%           | 1.00          | 0.18                          | 0.75            | 0.86                                      | X                | X  | X             |
|                        | Sideswipe<br>Backed Into                      | 5                         | 4          | 4          | 13                        | 4%<br>0%     | 4.33<br>0.33  | 0.18                          | 0.69            | 0.79 0.23                                 | X                | X  | X             |
|                        | Coll. w/ Parked Car                           | 0                         | 0          | 0          | 0                         | 0%           | 0.00          | 0.03                          | 0.13            | 0.23                                      | ~                | ^  | <u>^</u>      |
|                        | Coll. w/ Pedestrian                           | 0                         | 0          | 0          | 0                         | 0%           | 0.00          | 0.09                          | 0.34            | 0.39                                      |                  |  |               |
|                        | Coll. w/ Bicycle                              | 0                         | 0          | 0          | 0                         | 0%           | 0.00          | 0.00                          | 0.00            | 0.00                                      |                  |  |               |
|                        | Fixed Object                                  | 3                         | 1          | 3          | 7                         | 2%           | 2.33          | 0.00                          | 0.00            | 0.00                                      | Х                | Х  | Х             |
|                        | Ran Off Road                                  | 0                         | 0          | 0          | 0                         | 0%           | 0.00          | 0.00                          | 0.00            | 0.00                                      |                  |  |               |
|                        | Overtuned                                     | 0                         | 0          | 0          | 0                         | 0%           | 0.00          | 0.00                          | 0.00            | 0.00                                      |                  |  |               |
|                        | Other<br>Total Crashes                        | 0 38                      | 0<br>27    | 0<br>37    | 0 102                     | 0%<br>23%    | 0.00 34.00    | 1.03<br>3.09                  | 3.78<br>9.10    | 4.30<br>10.25                             | x                | x  | - v           |
| EVERITY                | Total Crashes<br>PDO crashes                  | 36                        | 27         | 37         | 99                        | 97%          | 33.00         | 1.67                          | 5.72            | 6.49                                      | X                | x  | X             |
|                        | Fatal crashes                                 | 0                         | 0          | 0          | 99<br>0                   | 0%           | 0.00          | 0.39                          | 1.90            | 2.19                                      | ^                |  | <u>⊢ ^ </u>   |
|                        | Injury crashes                                | 2                         | 0          | 1          | 3                         | 3%           | 1.00          | 1.73                          | 5.11            | 5.75                                      |                  | 1  |               |
| IGHT CONDITIONS        | Day Light                                     | 33                        | 18         | 28         | 79                        | 77%          | 26.33         | 1.79                          | 6.11            | 6.94                                      | Х                | х  | х             |
|                        | Dusk  | 0                         | 1          | 2          | 3                         | 3%           | 1.00          | 0.15                          | 0.60            | 0.69                                      | Х                | Х  | Х             |
|                        | Dawn  | 0                         | 0          | 0          | 0                         | 0%           | 0.00          | 0.12                          | 0.63            | 0.72                                      |                  |  |               |
|                        | Dark  | 5                         | 8          | 7          | 20                        | 20%          | 6.67          | 0.51                          | 1.54            | 1.73                                      | Х                | х  | х             |
| URFACE CONDITIONS      | Unknown                                       | 0                         | 0          | 0          | 0                         | 0%           | 0.00          | 0.18                          | 0.75            | 0.86                                      | v                |  |               |
| UNPAGE CONDITIONS      | Dry<br>Wet                                    | 35<br>3                   | 22<br>5    | 31<br>6    | 88<br>14                  | 86%<br>14%   | 29.33<br>4.67 | 2.33<br>0.33                  | 7.67            | 8.69<br>1.16                              | X                | X<br>X   | X<br>X        |
|                        | Others  | 3<br>0                    | 0          | <u>ь</u>   | 0                         | 0%           | 4.67          | 0.33                          | 0.63            | 0.72                                      | ^                | <u> </u>   | <b>⊢</b> ^    |
| IONTH OF A YEAR        | January                                       | 6                         | 4          | 4          | 14                        | 14%          | 4.67          | 0.15                          | 0.53            | 0.60                                      | х                | x  | x             |
|                        | February                                      | 4                         | 2          | 1          | 7                         | 7%           | 2.33          | 0.06                          | 0.28            | 0.32                                      | X                | X  | x             |
|                        | March   | 2                         | 1          | 3          | 6                         | 6%           | 2.00          | 0.24                          | 0.94            | 1.07                                      | Х                | х  | Х             |
|                        | April   | 1                         | 1          | 4          | 6                         | 6%           | 2.00          | 0.42                          | 1.44            | 1.63                                      | Х                | X  | Х             |
|                        | May   | 2                         | 1          | 6          | 9                         | 9%           | 3.00          | 0.30                          | 0.97            | 1.10                                      | X                | X  | X             |
|                        | June  | 5                         | 5          | 3          | 13                        | 13%          | 4.33          | 0.33                          | 1.07<br>0.97    | 1.21                                      | X                | X  | X             |
|                        | July<br>August                                | 4                         | 1          | 2          | 9                         | 7%<br>9%     | 2.33<br>3.00  | 0.30                          | 1.47            | 1.10<br>1.67                              | X                | x  | X<br>X        |
|                        | September                                     | 2                         | 1          | 3          | 9<br>6                    | 9 %<br>6%    | 2.00          | 0.45                          | 0.53            | 0.60                                      | x                | x  | <del>-</del>  |
|                        | October                                       | 2                         | 1          | 4          | 7                         | 7%           | 2.33          | 0.42                          | 1.28            | 1.44                                      | X                | X  | X             |
|                        | November                                      | 5                         | 4          | 2          | 11                        | 11%          | 3.67          | 0.30                          | 1.05            | 1.20                                      | X                | X  | X             |
|                        | December                                      | 2                         | 3          | 2          | 7                         | 7%           | 2.33          | 0.15                          | 0.60            | 0.69                                      | Х                | х  | Х             |
| AY OF THE WEEK         | Sunday  | 5                         | 4          | 1          | 10                        | 10%          | 3.33          | 0.58                          | 1.67            | 1.88                                      | Х                | Х  | Х             |
|                        | Monday  | 4                         | 0          | 4          | 8                         | 8%           | 2.67          | 0.42                          | 1.38            | 1.56                                      | Х                | х  | X             |
|                        | Tuesday                                       | 4                         | 5          | 6          | 15                        | 15%          | 5.00          | 0.30                          | 0.88            | 0.99                                      | X                | X  | X             |
|                        | Wednesday                                     | 8                         | 6          | 10         | 24                        | 24%          | 8.00          | 0.27                          | 0.81            | 0.91                                      | X                | X  | X             |
|                        | Thursday<br>Friday                            | 4<br>9                    | 5          | 9<br>3     | 18<br>13                  | 18%<br>13%   | 6.00<br>4.33  | 0.36 0.79                     | 1.36<br>2.91    | 1.55<br>3.32                              | X                | X  | X             |
|                        | Saturday                                      | 4                         | 6          | 4          | 14                        | 14%          | 4.67          | 0.39                          | 1.16            | 1.31                                      | x                | x  | Ŷ             |
| OUR OF THE DAY         | 00:00-06:00                                   | 2                         | 1          | 0          | 3                         | 3%           | 1.00          | 0.36                          | 1.29            | 1.47                                      | X                | ~  |               |
|                        | 06:00-09:00                                   | 9                         | 6          | 4          | 19                        | 19%          | 6.33          | 0.15                          | 0.66            | 0.76                                      | Х                | х  | Х             |
|                        | 09:00-11:00                                   | 7                         | 2          | 2          | 11                        | 11%          | 3.67          | 0.18                          | 0.69            | 0.79                                      | Х                | х  | Х             |
|                        | 11:00-13:00                                   | 5                         | 3          | 5          | 13                        | 13%          | 4.33          | 0.39                          | 1.43            | 1.63                                      | X                | х  | Х             |
|                        | 13:00-15:00                                   | 5                         | 3          | 5          | 13                        | 13%          | 4.33          | 0.48                          | 1.74            | 1.98                                      | X                | X  | X             |
|                        | 15:00-18:00                                   | 4                         | 3          | 10         | 17                        | 17%          | 5.67          | 0.70                          | 2.59            | 2.95                                      | X                | X  | X             |
|                        | 18:00-24:00                                   | 6                         | 9          | 11         | 26                        | 25%          | 8.67          | 0.39                          | 1.43            | 1.63                                      | Х                | X  | Х             |
|                        |   |                           |            |            |                           |              |               | 2 1/2-24                      | 1               |   |                  |  |               |
|                        |   |                           |            |            | <u> </u>                  | YEAR         | 1             | 3-Year                        |                 |   |                  |  |               |
|                        |   |                           |            |            | 1                         | 2            | 3             | Average                       |                 |   |                  |  |               |
| verage Daily Traffic A | ADT (Vehicles per L                           | Day)                      |            |            | 59,557                    | 59,556       | 60,771        | 59,961                        | 1               |   |                  |  |               |
| Iorida Average Crash   | rate (Crashes ner                             | Million En                | terina Ve  | hicles)    | 0.257                     | 0.268        | 0.248         | 0.258                         | 1               |   |                  |  |               |
| 0                      |   |                           |            |            |                           |              |               |                               | 4               |   |                  |  |               |
| raffic Base            |   |                           |            |            | 21.738                    | 21.738       | 22.181        | 21.886                        | 4               |   |                  |  |               |
| Actual Crash Rate (Cr  | rashes per Million E                          | Intering V                | ehicles)   |            | 1.748                     | 1.242        | 1.668         | 1.553                         | 1               |   |                  |  |               |
| Critical Crash Rate (C | rashes per Million B                          | Enterina V                | (ehicles)  |            | 0.638                     | 0.656        | 0.618         | 0.637                         | 1               |   |                  |  |               |
|                        |   |                           | )          |            | 2.741                     |              |               |                               | 1               |   |                  |  |               |
| Safety Ratio           |   |                           | _          |            |                           | 1.893        | 2.697         | 2.444                         | -               |   |                  |  |               |
| ligh Crash Location    | ??  |                           |            |            | YES                       | YES          | YES           | YES                           |                 |   |                  |  |               |
|                        | $Rate = \frac{A \times 1,00}{V}$              |                           | _          | V = Ave    | al number o<br>rage Annua |              |               | f crashes by                  | / type occurrin | ng in a 1 year                            | period.          |  |               |
| CriticalCrashRo        | $ate = AVR + \frac{0.5}{TB} +$                | $TF\sqrt{\frac{AVI}{TB}}$ | 2          | TB = Trans | affic Base                |              | ash Rate for  | a particular                  | type of interse | ection or road                            | , ,              | nt.<br>Constant Z                                  | ר             |
| Traffic Base =         | $\frac{Years \times ADT \times 3}{1,000,000}$ | 65                        |            | = 1.       |                           | e 95% Cor    |               | el for RURAI<br>Level for URI |                 | 68.30<br>86.60<br>90.00<br>95.00<br>95.50 | 0<br>0<br>0<br>0 | Constant Z<br>1.00<br>1.50<br>1.64<br>1.96<br>2.00 | 1             |
| Safety Ratio           | $= \frac{Actual Crash}{Critical Crash}$       | h Rate<br>sh Rate         | -          |            |                           |              |               |                               |                 | 95.50<br>98.80<br>99.00<br>99.70<br>99.92 | D<br>D<br>D      | 2.00<br>2.50<br>2.58<br>3.00<br>3.29               |               |

# Table 34 – Crash Analysis – SW 117 Avenue and SW 120 Street



# Table 35 – Abnormal Crash Details & CountermeasuresSW 117 Avenue and SW 120 Street

|                         | (4 J ane x 4  | Lane, Signalized,  | With Turn   |  |  | on -Table 2   |  | N Spot   |  |  |
|-------------------------|---|--|---|--|--|---|--|--|--|--|
|                         | (4 Lane X 4   | Larie, Olgrialized,  |   | ER OF CR   |  | 3 YEAR  | %  | MEAN   |  |  |
|                         |   |  |   | YEAR   |  | TOTAL   | of   | Accidents  | Possible<br>Cause(s)   | Counter-<br>measure(s  |
|                         | Total Rear Er   |  | 2006<br>27  | 2007<br>17   | 2008<br>21   | CRASHE<br>65  | Total<br>100%  | per Year<br>21.67  | (1)  | 4  |
|                         | Lighting Conditions   | Day Light<br>Dawn  | 26<br>0   | 10   | 18   | 54<br>2   | 83%  | 18.00<br>0.67  | (2)<br>(4)   | 5<br>6   |
|                         |   | Dark<br>00:00 - 06:00  | 1   | 6<br>1   | 2  | 9   | 14%<br>3%  | 3.00<br>0.67   | (8)  |  |
|                         |   | 06:00 - 09:00<br>09:00 - 11:00   | 8   | 4  | 3  | 15<br>7   | 23%<br>11%   | 5.00<br>2.33   |  |  |
| Rear End                | Hours of Day  | 11:00 - 13:00  | 5   | 2  | 3  | 10  | 15%  | 3.33   |  |  |
|                         |   | 13:00 - 15:00<br>15:00 - 18:00   | 3   | 2  | 4  | 9   | 14%<br>14%   | 3.00<br>3.00   |  |  |
|                         |   | 18:00 - 24:00<br>North   | 4   | 5  | 4  | 13<br>8   | 20%<br>12%   | 4.33<br>2.67   |  |  |
|                         | Direction   | South<br>East  | 4   | 2  | 5<br>16  | 11<br>45  | 17%<br>69%   | 3.67<br>15.00  |  |  |
|                         |   | West<br>Unknown  | 1   | 0  | 0  | 1   | 2%<br>0%   | 0.33   |  |  |
|                         |   | Unknown  | v   | v  | v  | 0   | 078  | 0.00   |  | 1  |
|                         |   |  | NUMB  | ER OF CR<br>YEAR   | ASHES  | 3 YEAR<br>TOTAL   | %<br>of  | MEAN<br>Accidents  | Possible   | Counter-   |
|                         | Total Angle   | Crashas  | 2006  | 2007   | 2008   | CRASHE  | Total  | per Year   | Cause(s)   | measure(s  |
|                         |   | Day Light  | 1   | 1  | 5  | 7   | 100%<br>100%   | 2.33<br>2.33   | (4)<br>(12)  | 6  |
|                         | Lighting Conditions   | Dawn<br>Dark   | 0   | 0  | 0  | 0   | 0%<br>0%   | 0.00   |  |  |
|                         |   | 00:00 - 06:00<br>06:00 - 09:00   | 0   | 0  | 0  | 0   | 0%<br>29%  | 0.00 0.67  |  |  |
|                         | Hours of Day  | 09:00 - 11:00<br>11:00 - 13:00   | 0   | 0  | 1  | 1   | 14%<br>0%  | 0.33   |  |  |
| Angle                   | riburs of Day   | 13:00 - 15:00  | 0   | 0  | 1  | 1   | 14%  | 0.33   |  |  |
|                         |   | 15:00 - 18:00<br>18:00 - 24:00   | 0   | 0  | 1 2  | 1 2   | 14%<br>29%   | 0.33 0.67  |  |  |
|                         |   | NB + EB<br>NB + WB   | 1   | 1  | 2  | 4   | 57%<br>0%  | 1.33<br>0.00   |  |  |
|                         | Direction   | SB + EB<br>SB + WB   | 0   | 0  | 3  | 3   | 43%  | 1.00   |  |  |
|                         |   | SB + WB<br>Unknown   | 0   | 0  | 0  | 0   | 0%<br>0%   | 0.00   |  |  |
|                         |   |  |   |  |  |   |  |  |  |  |
|                         |   |  |   | ER OF CR<br>YEAR   |  | 3 YEAR<br>TOTAL   | %<br>of  | MEAN<br>Accidents  | Possible<br>Cause(s)   | Counter-<br>measure(s  |
|                         | Total Left Tu   | n Crashes  | 2006<br>2   | 2007<br>2  | 2008   | CRASHE<br>6   | Total<br>100%  | per Year<br>2.00   | (4)  | 6  |
|                         | Lighting Conditions   | Day Light<br>Dawn  | 1   | 2  | 0  | 3   | 50%<br>0%  | 1.00<br>0.00   | (13)   | 13   |
|                         |   | Dark<br>00:00 - 06:00  | 1   | 0  | 2  | 3   | 50%  | 1.00   |  |  |
|                         |   | 06:00 - 09:00  | 0   | 0  | 0  | 0   | 0%<br>0%   | 0.00   |  |  |
| Left Turn               | Hours of Day  | 09:00 - 11:00<br>11:00 - 13:00   | 1   | 0  | 0  | 1 2   | 17%<br>33%   | 0.33 0.67  |  |  |
| Lett Turn               |   | 13:00 - 15:00  | 0   | 0  | 0  | 0   | 0%<br>17%  | 0.00   |  |  |
|                         |   |  |   |  |  |   |  |  |  |  |
|                         |   | 18:00 - 24:00  | 1   | 0  | 1  | 2   | 33%  | 0.67   |  |  |
|                         |   | 18:00 - 24:00<br>$NB \rightarrow WB$<br>$WB \rightarrow SB$  | 2   | 0<br>2<br>0  | 2  | 6   | 100%   | 2.00<br>0.00   |  |  |
|                         | Direction   | $NB \rightarrow WB$  | 2   | 2  | 2  | 6   | 100%   | 2.00   |  |  |
|                         | Direction   | $NB \rightarrow WB$<br>$WB \rightarrow SB$<br>$SB \rightarrow EB$  | 2 0 0   | 2<br>0<br>0  | 2<br>0<br>0  | 6<br>0<br>0   | 100%<br>0%<br>0%   | 2.00<br>0.00<br>0.00   |  |  |
|                         | Direction   | $\begin{array}{c} NB \rightarrow WB \\ WB \rightarrow SB \\ SB \rightarrow EB \\ EB \rightarrow NB \end{array}$  | 2<br>0<br>0<br>0  | 2<br>0<br>0<br>0   | 2<br>0<br>0<br>0   | 6<br>0<br>0<br>0  | 100%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00   | Pageible   | Counter  |
|                         | Direction   | $\begin{array}{c} NB \rightarrow WB \\ WB \rightarrow SB \\ SB \rightarrow EB \\ EB \rightarrow NB \end{array}$  | 2<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>ER OF CR   | 2<br>0<br>0<br>0<br>0<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8   | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL   | 100%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents  | Possible<br>Cause(s)   | Counter-<br>measure(s  |
|                         | Direction   | NB → WB<br>WB → SB<br>SB → EB<br>EB → NB<br>Unknown  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>8<br>ASHES<br>2008<br>4  | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>13   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>per Year<br>4.33  | (8)  | measure(s  |
|                         |   | NB → WB           WB → SB           SB → EB           EB → NB           Unknown           pe Crashes           DayLight           Dawn   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br><b>ASHES</b><br>2008<br>4<br>3<br>1   | 6<br>0<br>0<br>0<br><b>3 YEAR</b><br>TOTAL<br>CRASHE<br>13<br>12<br>1   | 100%<br>0%<br>0%<br>0%<br>0%<br>of<br>Total<br>100%<br>92%<br>8%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>4.33<br>4.00<br>0.33   | (8)<br>(18)<br>(19)  | measure(s  |
|                         | Total Sideswi   | NB → WB<br>WB → SB<br>SB → EB<br>EB → NB<br>Unknown<br>Unknown<br>Day Light  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>8<br>ASHES<br>2008<br>4  | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>13<br>12   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>100%<br>92%<br>8%<br>0%<br>0%  | 2.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>per Year<br>4.33<br>4.00  | (8)<br>(18)  | measure(s<br>19<br>21  |
| _                       | Total Sideswi   | NB → WB           SB → EB           SB → EB           EB → NB           Unknown           Day           DayLight           Dawn           Dark           00:00 - 06:00           06:00 - 09:00   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br><b>ER OF CF</b><br><b>YEAR</b><br>2007<br>4<br>4<br>0<br>0<br>0<br>2  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 6<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>13<br>12<br>1<br>0  | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br><b>5</b><br><b>7</b><br><b>7</b><br><b>7</b><br><b>7</b><br><b>7</b><br><b>7</b><br><b>7</b><br><b>7</b><br><b>7</b><br><b>7</b>   | 2.00<br>0.00<br>0.00<br>0.00<br>Accidents<br>per Year<br>4.33<br>4.00<br>0.33<br>0.00<br>0.67  | (8)<br>(18)<br>(19)<br>(20)  | measure(s<br>19<br>21  |
| Sideswips               | Total Sideswi   | NB → WB           WB → SB           SB → EB           EB → NB           Unknown           DayLight           Dawn           Dark           00:00 - 06:00           06:00 - 09:00           09:00 - 11:00           11:00 - 13:00   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br><b>ER OF CR</b><br><b>YEAR</b><br><b>2007</b><br><b>4</b><br>4<br>4<br>0<br>0<br>0<br>0<br>2<br>0<br>0<br>1  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2008<br>4<br>3<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 6<br>0<br>0<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>13<br>12<br>1<br>0<br>0<br>2<br>2<br>1  | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>100%<br>92%<br>8%<br>0%<br>0%<br>15%<br>15%<br>8%  | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.67<br>0.67<br>0.33   | (8)<br>(18)<br>(19)<br>(20)  | measure(s<br>19<br>21  |
| Sideswipe<br>(Overtake) | Total Sideswi   | NB → WB         WB → SB           SB → EB         EB           EB → NB         Unknown           Unknown         DayLight           Dawn         Dawn           Dark         00.90 - 06.00           06.90 - 09.90         11.90           11.300 - 11.300         11.300           11.500 - 115.00         115.00   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>7<br>7<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>7<br>8<br>7<br>8<br>7<br>7<br>8<br>7<br>8   | 2<br>0<br>0<br>0<br>2<br>2008<br>4<br>3<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2  | 6<br>0<br>0<br>0<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>13</b><br>12<br>1<br>2<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>4   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>100%<br>92%<br>8%<br>0%<br>15%<br>8%<br>8%<br>8%<br>31%  | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | (8)<br>(18)<br>(19)<br>(20)  | measure(s<br>19<br>21  |
|                         | Total Sideswi   | NB → WB           WB → SB           SB → EB           EB → NB           Unknown           DayLight           Dawn           Dark           00:00 - 06:00           06:30 - 09:30           09:30 - 11:30           11:30 - 13:50   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br><b>ER OF CR</b><br><b>2007</b><br><b>4</b><br><b>4</b><br><b>0</b><br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 6<br>0<br>0<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>12<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1  | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>100%<br>92%<br>8%<br>0%<br>0%<br>15%<br>15%<br>8%  | 2:00<br>0:00<br>0:00<br>0:00<br>0:00<br>0:00<br>0:00<br>0:00<br>0:00<br>0:00<br>0:00<br>0:00<br>0:07<br>0:33<br>0:33   | (8)<br>(18)<br>(19)<br>(20)  | measure(s<br>19<br>21  |
|                         | Total Sideswi   | NB → WB         WB         WB         SB → EB         SB → CB  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>13<br>12<br>1<br>0<br>0<br>0<br>2<br>2<br>2<br>1<br>1<br>4<br>4<br>3<br>6<br>4   | 100%<br>0%<br>0%<br>0%<br>0%<br>10%<br>92%<br>8%<br>92%<br>8%<br>92%<br>8%<br>8%<br>15%<br>15%<br>15%<br>15%<br>15%<br>31%<br>23%  | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>per Year<br>4.33<br>4.00<br>0.03<br>0.00<br>0.00<br>0.67<br>0.67<br>0.67<br>0.33<br>1.33<br>1.00<br>1.00  | (8)<br>(18)<br>(19)<br>(20)  | measure(s<br>19<br>21  |
|                         | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | NB → WB           WB → SB           SB → EB           EB → NB           Unknown           DayLight           Dawn           Dog 0.0 06 00           00 900 - 01300           11 300 - 1300           15 300 - 18:00           North           South           East           West  | 2           0           1           1           0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>7<br>7<br>8<br>0<br>7<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br><b>13</b><br>12<br>1<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>4<br>4<br>3<br>6<br>6<br>4<br>3<br>0  | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>100%<br>92%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>23%<br>46%<br>31%<br>23%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | (8)<br>(18)<br>(19)<br>(20)  | measure(s<br>19<br>21  |
|                         | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | NB → WB         WB → SB           SB → EB         EB → NB           Unknown         Day Light           Dawn         Dawn           Dawn         Dawn           Dar 10:00         00:00 - 00:00           D6:00 - 00:00         00:00 - 00:00           D6:00 - 00:00         10:00 - 11:00           Display         11:00     <  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>2006<br>5<br>5<br>5<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>12<br>1<br>1<br>1<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>1%<br>100%<br>92%<br>8%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>31%<br>8%<br>31%<br>31%<br>23%  | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | (8)<br>(18)<br>(19)<br>(20)  | measure(s<br>19<br>21  |
|                         | Total Sideswi<br>Lighting Conditions<br>Hours of Day  | NB → WB           WB → SB           SB → EB           EB → NB           Unknown           DayLight           Dawn           Dog 0.0 06 00           00 900 - 01300           11 300 - 1300           15 300 - 18:00           North           South           East           West  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>13<br>12<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>4<br>3<br>6<br>4<br>4<br>3<br>0<br>0<br>0<br>3 YEAR  | 100%<br>0%<br>0%<br>0%<br>0%<br>of<br>Total<br>100%<br>92%<br>8%<br>92%<br>8%<br>15%<br>15%<br>15%<br>8%<br>23%<br>23%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | (8)<br>(18)<br>(19)<br>(20)  | measure(s<br>19<br>21  |
|                         | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | NB → WB           WB → SB           SB → EB           EB → NB           Unknown           Day Light           Dawn           Dawn           Dawn           Dawn           1300-01100           15,00-115,00           15,00-115,00           15,00-24,90           North           South           East           West           Unknown   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>13<br>12<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>4<br>3<br>6<br>6<br>4<br>3<br>0<br>0<br>0<br>3 YEAR<br>7<br>7<br>7<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>10%<br>92%<br>92%<br>92%<br>92%<br>15%<br>15%<br>15%<br>15%<br>15%<br>15%<br>15%<br>15%<br>15%<br>23%<br>0%<br>0%<br>0%  | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)  | Counter-<br>measure(s  |
|                         | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | NB → WB           WB → SB           SB → EB           EB → NB           Unknown           Day Light           Dawn           Unknown  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>2<br>0<br>0<br>0<br>0<br>7<br>7<br>7<br>8<br>7<br>7<br>8<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>12<br>12<br>12<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>4<br>3<br>6<br>6<br>4<br>3<br>0<br>0<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>4<br>5<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7  | 100%<br>0%<br>0%<br>0%<br>0%<br>of<br><b>Total</b><br>100%<br>92%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>8%<br>31%<br>23%<br>8%<br>8%<br>8%<br>0%<br>0%<br>0%<br>0%<br>0%  | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(18)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible  | neasure(s  |
|                         | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | NB → WB         WB → SB           SB → LB         SB → LB           EB → NB         WB           Junknown         Junknown           DayLight         Dawn           Dawn         Junknown           Jark         00.00 - 06.00           09.00 - 11.00         11.00           11.300 - 13.00         15.00           15.00 - 18.00         IS.00-24.00           North         South           East         West           Unknown         Junknown  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>7<br>2007<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br><b>3 YEAR</b><br><b>TOTAL</b><br><b>CRASHE</b><br>12<br>1<br>1<br>0<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>4<br>3<br>6<br>6<br>4<br>3<br>0<br>0<br>0<br>0<br>0<br>3 YEAR<br>12<br>12<br>12<br>12<br>1<br>0<br>0<br>0<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>100%<br>92%<br>8%<br>0%<br>15%<br>8%<br>0%<br>15%<br>8%<br>0%<br>15%<br>8%<br>31%<br>23%<br>46%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%              | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>4.33<br>0.00<br>0.67<br>0.67<br>0.00<br>0.67<br>0.33<br>1.33<br>1.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0   | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)<br>(1)   | Counter-<br>measure(s<br>22  |
|                         | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | NB → WB           WB → SB           SB → EB           EB → NB           Unknown           DayLight           Dawn           Dog 00:00:09:00           00:00:00:09:00           00:00:00:10:00           11:300-11:300           11:300-11:500           Dayt Light           Dawn           Dawn           Dark           00:500-66:00   | 2           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           1         1           0         0           0         0           0         0           0         0           0         0           0         0   | 2           0           0           0           0           0           0           0           0           2007           2           0           0           0           0           0           1           0           1           0           0           1           0           0           0           1           0           0           1           1           0           0           1           1           1           1           1           1           1           0   | 2<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>2<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br><b>CRASHE</b><br>13<br>12<br>10<br>0<br>2<br>2<br>2<br>1<br>1<br>1<br>0<br>0<br>2<br>2<br>2<br>1<br>1<br>1<br>4<br>3<br>6<br>6<br>4<br>4<br>3<br>0<br>0<br>0<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>1<br>3<br>1<br>1<br>2<br>2<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>100%<br>8%<br>0%<br>100%<br>15%<br>8%<br>8%<br>0%<br>15%<br>8%<br>8%<br>0%<br>15%<br>8%<br>31%<br>23%<br>46%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0% | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)<br>(1)   | Counter-<br>measure(s<br>22  |
|                         | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions   | NB → WB           WB → SB           SB → EB           EB → NB           Unknown           Jagy Lipht           Dawn           0000 - 06.00           06.00 - 06.00           09.00 - 11.00           115.00 - 113.00           115.00 - 113.00           115.00 - 113.00           116.00 - 24.00           North           South           East           West           Unknown           Dawn           00.00 - 06.00           00.00 - 06.00           00.00 - 06.00           00.00 - 06.00           00.00 - 09.00   | 2           0   | 2           0           0           0           0           0           0           0           0           0           2007           4           0           0           0           0           0           0           0           0           0           0           0           1           1           0           1           0           1           0           1 | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br><b>CRASHE</b><br>113<br>11<br>1<br>0<br>0<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>1  | 100% 100% 10% 10% 10% 10% 10% 10% 10% 10   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)<br>(1)   | Counter-<br>measure(s<br>22  |
|                         | Total Sideswi<br>Lighting Conditions<br>Hours of Day<br>Direction   | NB WB           WB SB           SB EB           EB NB           Unknown           Dawn  | 2           0 | 2<br>0<br>0<br>0<br>VEAR OF CR<br>VEAR<br>4<br>0<br>0<br>0<br>2<br>2007<br>4<br>4<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  | 6<br>0<br>0<br>0<br><b>3 YEAR</b><br>12<br>12<br>12<br>12<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>3<br>3<br>3<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>or Year<br>4.33<br>0.00<br>0.67<br>0.67<br>0.33<br>0.00<br>0.67<br>0.33<br>1.00<br>0.67<br>0.33<br>1.00<br>0.00<br>0.67<br>0.33<br>1.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)<br>(1)   | Counter-<br>measure(s<br>22  |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions   | NB WB           WB SB           SB EB           EB NB           Unknown           Dawn           Dawn           Dawn           Dawn           Dawn           11:80 - 13:00           11:30 - 13:00           15:00 - 18:00           Noth           Noth           Dawk           Dawn   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  | 6<br>0<br>0<br>0<br>3 YEAR<br>12<br>12<br>12<br>12<br>12<br>1<br>0<br>2<br>2<br>1<br>1<br>3<br>6<br>3 YEAR<br>1<br>3 YEAR<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>ber Year<br>4.33<br>0.00<br>0.67<br>0.33<br>0.00<br>0.67<br>0.33<br>1.00<br>0.67<br>0.33<br>1.00<br>0.67<br>0.33<br>1.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00  | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)<br>(1)   | Counter-<br>measure(s<br>22  |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions   | NB WB         WB SB           SB EB         SB EB           EB NB         Unknown           Dawn         Dawn           Dawn         Dawn      <   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br><b>3 YEAR</b><br><b>12</b><br><b>13</b><br><b>12</b><br><b>13</b><br><b>12</b><br><b>1</b><br><b>1</b><br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>0<br>2<br>2<br>1<br>1<br>1<br>0<br>0<br>2<br>2<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>ber Year<br>4.33<br>0.00<br>0.67<br>0.33<br>0.00<br>0.67<br>0.33<br>1.03<br>1.03<br>1.03<br>1.03<br>1.03<br>1.03<br>1.03   | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)<br>(1)   | Counter-<br>measure(s<br>22  |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions   | NB WB           WB SB           SB EB           EB NB           Unknown           Day Light           Dawn           Dawn           Dark           00:90:00:300           00:90:00:300           00:90:00:11:00           11:30:0:15:00           15:30:18:00           15:30:18:00           Dawn           13:00:11:300           13:00:11:300           13:00:11:300           13:00:24:00           NBEE           E-B-SB           WBNB   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  | 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>ber Year<br>4.33<br>0.00<br>0.67<br>0.33<br>0.00<br>0.67<br>0.33<br>1.00<br>0.67<br>1.33<br>1.00<br>0.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.67<br>0.03<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0  | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)<br>(1)   | Counter-<br>measure(s<br>22  |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions Hours of Day  | NB → WB         WB → SB           SB → EB         EB → NB           SB → EB         EB → NB           Unknown         DayLight           Dawn         Dawn           Dawn         Dawn           13:00 - 15:00         15:00 - 18:00           18:00 - 24:00         North           South         East           West         Unknown           Dark         00:00 - 00:00           13:00 - 15:00         18:00 - 24:00           Narh         Dawn           Dark         00:00 - 00:00           13:00 - 15:00         11:00           13:00 - 15:00         11:00           13:00 - 15:00         11:00           13:00 - 15:00         11:00           13:00 - 15:00         11:00           13:00 - 15:00         11:00           15:00 - 18:00         11:00           15:00 - 18:00         11:00           15:00 - 18:00         11:00           15:00 - 18:00         11:00           15:00 - 18:00         11:00   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6           0           0           0           0           0           0           0           0           0           0           0           0           12           13           12           13           0           2           1           1           1           0           1 <td>100%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%</td> <td>2.00<br/>0.00<br/>0.00<br/>0.00<br/>0.00<br/>MEAN<br/>Accidents<br/>per Year<br/>4.33<br/>0.00<br/>0.67<br/>0.67<br/>0.67<br/>0.67<br/>0.33<br/>1.00<br/>0.67<br/>1.33<br/>1.00<br/>0.00<br/>0.67<br/>1.33<br/>1.00<br/>0.00<br/>0.00<br/>0.00<br/>0.00<br/>0.00<br/>0.00</td> <td>Cause(s)<br/>(8)<br/>(19)<br/>(20)<br/>(21)<br/>(21)<br/>Possible<br/>Cause(s)<br/>(1)</td> <td>Counter-<br/>measure(s<br/>22</td> | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>per Year<br>4.33<br>0.00<br>0.67<br>0.67<br>0.67<br>0.67<br>0.33<br>1.00<br>0.67<br>1.33<br>1.00<br>0.00<br>0.67<br>1.33<br>1.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00  | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)<br>(1)   | Counter-<br>measure(s<br>22  |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions Hours of Day  | NB → WB           WB → SB           SB → EB           EB → NB           Junknown           Junknown           Day Light           Dawn           Jark           Op 0: 06:00           Bit           Jark           Op 0: 06:00           Bit           Jark           Op 0: 06:00           Bit           Jark           Jark           Op 0: 06:00           Bit           Jark           Jark           Jark           Jark           Jark           Jark           Jark           Jark<   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>ber Year<br>4.33<br>0.00<br>0.67<br>0.33<br>0.00<br>0.67<br>0.33<br>1.00<br>0.67<br>0.33<br>1.00<br>0.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.67<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(19)<br>(20)<br>(21)<br>(21)<br>Possible<br>Cause(s)<br>(1)   | Counter-<br>measure(s<br>Counter-<br>measure(s<br>13   |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions Hours of Day  | NB → WB           WB → SB           SB → EB           EB → NB           Junknown           Junknown           Day Light           Dawn           Jark           Op 0: 06:00           Bit           Jark           Op 0: 06:00           Bit           Jark           Op 0: 06:00           Bit           Jark           Jark           Op 0: 06:00           Bit           Jark           Jark           Jark           Jark           Jark           Jark           Jark           Jark<   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>3 YEAR<br>3 YEAR<br>3 YEAR<br>3 YEAR<br>3 YEAR<br>3 YEAR<br>3 YEAR   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>or Year<br>4.33<br>0.00<br>0.67<br>0.67<br>0.33<br>0.00<br>0.67<br>1.33<br>1.30<br>1.00<br>0.00<br>1.33<br>1.00<br>0.00<br>1.33<br>1.00<br>0.00<br>0   | Cause(s)<br>(8)<br>(10)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21   | Counter-<br>measure(s<br>21<br>22<br>22<br>33<br>21<br>3<br>21   |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tt Lighting Conditions Hours of Day Direction                                    | NB WB         WB KB           SB EB         EB NB           SB EB         EB NB           Unknown         DayLight           Dawn         Dawn           Dark         00:00:00:00:00           00:00:00:00:00:00         00:00:00:00           00:00:00:00:00:00         00:00:00:00:00           00:00:00:00:00:00         00:00:00:00           DayLight         DayLight           DayLight         Dawn           Dawt         00:00:06:00           00:00:06:00         00:00:06:00           00:00:06:00         00:00:00           00:00:06:00         00:00:00           00:00:06:00         00:00:00           00:00:06:00         00:00           00:00:06:00         00:00           00:00:06:00         00:00           00:00:06:00         00:00           00:00:00:00         00:00           00:00:00:00         00:00           00:00:00:00         00:00           00:00:00:00         00:00           00:00:00:00         00:00           00:00:00:00         00:00           00:00:00:00         00:00           00:00:00:00         00:00  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6 0 0 0 0 3 YEAR 1 0 0 3 YEAR 1 0 0 0 3 YEAR 0 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0  | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>or Year<br>4.33<br>0.00<br>0.67<br>0.33<br>0.00<br>0.67<br>0.33<br>1.00<br>0.67<br>0.33<br>1.00<br>0.67<br>0.33<br>1.00<br>0.00<br>0.67<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0  | Cause(s)<br>(8)<br>(18)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2 | Counter-<br>measure(s<br>22<br>22<br>33<br>21<br>3<br>21<br>21<br>21<br>21<br>21<br>21<br>21<br>21<br>21<br>21<br>21<br>21<br>21 |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Lighting Conditions Hours of Day Direction Total Fixed Ob Total Fixed Ob                     | NB WB           WB SB           SB EB           EB NB           Unknown           Dawn  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  | 6 0 0 0 0 3 YEAR 1 1 1 0 0 2 1 1 1 0 0 2 1 1 1 0 0 2 1 1 1 0 0 2 1 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0  | 1007%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>15%<br>2%<br>8%<br>15%<br>2%<br>8%<br>15%<br>2%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%                                     | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>bor Year<br>4.33<br>0.00<br>0.67<br>0.33<br>0.00<br>0.67<br>0.33<br>1.00<br>0.67<br>0.33<br>1.00<br>0.67<br>0.33<br>1.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00  | Cause(s)<br>(8)<br>(18)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2       | Counter-measure(s           19           21           22           31           21           21                                  |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tt Lighting Conditions Hours of Day Direction                                    | NB → WB           WB → SB           SB → EB           EB → NB           Jann           Dawn           Bawn           Dawn           Dawn           Dawn           South           South           Bawn           Dawn           Dawn <td< td=""><td>2<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</td><td>2<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</td><td>2<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</td><td>6<br/>0<br/>0<br/>3 YEAR<br/>12<br/>11<br/>0<br/>22<br/>1<br/>1<br/>0<br/>2<br/>2<br/>2<br/>1<br/>1<br/>0<br/>2<br/>2<br/>2<br/>1<br/>1<br/>0<br/>2<br/>2<br/>2<br/>1<br/>1<br/>0<br/>2<br/>2<br/>2<br/>1<br/>1<br/>0<br/>2<br/>2<br/>2<br/>1<br/>1<br/>1<br/>0<br/>2<br/>2<br/>2<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1<br/>1</td><td>100%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%<br/>0%</td><td>2.00<br/>0.00<br/>0.00<br/>0.00<br/>0.00<br/>0.00<br/>0.00<br/>0.00</td><td>Cause(s)<br/>(8)<br/>(18)<br/>(20)<br/>(21)<br/>(21)<br/>(21)<br/>(21)<br/>(21)<br/>(2)<br/>(2)<br/>Possible<br/>Cause(s)<br/>(2)<br/>(2)<br/>(2)</td><td>Counter-<br/>measure(s<br/>21<br/>22<br/>22<br/>33<br/>21<br/>3<br/>3<br/>21<br/>3<br/>3<br/>21<br/>3<br/>3<br/>21<br/>5</td></td<> | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>3 YEAR<br>12<br>11<br>0<br>22<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(18)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(2)<br>(2)<br>Possible<br>Cause(s)<br>(2)<br>(2)<br>(2)           | Counter-<br>measure(s<br>21<br>22<br>22<br>33<br>21<br>3<br>3<br>21<br>3<br>3<br>21<br>3<br>3<br>21<br>5                         |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Lighting Conditions Hours of Day Direction Total Fixed Ob Total Fixed Ob                     | NB → WB           WB → SB           SB → EB           EB → NB           Day Light           Dawn           Bawn           Dawn           Dawn           Bawn           Dawn           Bis00 - 24:00           NB - 450           Bis00 - 24:00           NB - 450           Bis00 - 24:00           NB - 550           WB - 580           WB - 880           Wes - NB           SB - WB           Dawn   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6 0 0 0 0 3 YEAR 12 1 0 0 2 1 1 0 0 2 1 1 0 0 2 1 1 0 0 0 0   | 1007%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%  | 2.00<br>0.00<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>per Year<br>4.33<br>0.00<br>0.67<br>0.67<br>0.67<br>0.67<br>0.67<br>1.33<br>1.00<br>0.67<br>1.33<br>1.00<br>0.00<br>0.67<br>1.33<br>1.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(18)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2       | Counter-measure(s           19           21           22           31           21           21                                  |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions Hours of Day Direction Total Fixed Ob Lighting Conditions | NB → WB           WB → SB           SB → EB           EB → NB           SB → EB           Day Light           Dawn           Bawn           Dawn   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6<br>0<br>0<br>0<br>3 YEAR<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12  | 1007%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%  | 2.00<br>0.00<br>0.00<br>0.00<br><b>MEAN</b><br>Accidents<br>oer Year<br>4.33<br>0.00<br>0.67<br>0.67<br>0.67<br>0.67<br>0.63<br>1.33<br>1.00<br>0.67<br>1.33<br>1.00<br>0.67<br>1.33<br>1.00<br>0.00<br>0.67<br>0.03<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0  | Cause(s)<br>(8)<br>(18)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2       | Counter-<br>measure(s<br>22<br>22<br>13<br>21<br>13<br>21<br>21<br>21<br>21<br>21<br>5<br>5<br>20                                |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Lighting Conditions Hours of Day Direction Total Fixed Ob Total Fixed Ob                     | NB → WB         WB → SB           SB → LEB         SB → LEB           EB → NB         Junknown           Junknown         Junknown           Day Light         Dawn           Dawn         Junknown           Jark         Junknown           Jark         Junknown           Be (Jark)         South           Dark         South           Dark         South           Dark         South           Dark         South     <  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   | 1007%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>100%<br>8%<br>0%<br>0%<br>15%<br>28%<br>8%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%  | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>or year<br>4.33<br>0.00<br>0.67<br>0.67<br>0.33<br>0.00<br>0.67<br>0.67<br>0.33<br>0.00<br>0.67<br>0.33<br>1.30<br>0.00<br>0.67<br>1.33<br>1.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(18)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2       | Counter-<br>measure(s<br>22<br>22<br>13<br>21<br>13<br>21<br>21<br>21<br>21<br>21<br>5<br>5<br>20                                |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions Hours of Day Direction Total Fixed Ob Lighting Conditions | NB → WB           WB → SB           SB → EB           EB → NB           SB → EB           EB → NB           DayLight           Dawn   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>2<br>0<br>0<br>0<br>0<br>2<br>2<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7  | 2<br>0<br>0<br>0<br>ASHES<br>2008<br>4<br>3<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>2<br>2<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>12<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>3<br>2<br>2<br>1<br>1<br>1<br>0<br>3<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1  | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(18)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2       | Counter-<br>measure(s<br>22<br>22<br>13<br>21<br>13<br>21<br>21<br>21<br>21<br>21<br>5<br>5<br>20                                |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions Hours of Day Direction Total Fixed Ob Lighting Conditions | NB → WB           WB → SB           SB → EB           EB → NB           SB → EB           EB → NB           Davin           South           East           West           Unknown           Davin  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>2<br>0<br>0<br>0<br>0<br>2<br>2<br>7<br>7<br>4<br>4<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>ASHES<br>2008<br>4<br>3<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>2<br>2<br>2<br>1<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 6<br>0<br>0<br>0<br>3 YEAR<br>TOTAL<br>CRASHE<br>12<br>1<br>0<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>2<br>2<br>2<br>1<br>1<br>0<br>0<br>2<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>0<br>0<br>2<br>2<br>2<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | 100%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%   | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>per Year<br>4.33<br>0.00<br>0.33<br>0.33<br>1.00<br>0.00<br>0.67<br>0.67<br>0.00<br>0.33<br>1.33<br>1.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.33<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0 | Cause(s)<br>(8)<br>(18)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2       | Counter-<br>measure(s<br>22<br>22<br>13<br>21<br>13<br>21<br>21<br>21<br>21<br>21<br>5<br>5<br>20                                |
| (Overtake)              | Total Sideswi Lighting Conditions Hours of Day Direction Total Right Tr Lighting Conditions Hours of Day Direction Total Fixed Ob Lighting Conditions | NB → WB         WB → SB           SB → LEB         EB → NB           SB → LEB         EB → NB           Unknown         Day Light           Dawn         Day Light           Dawn         18.00           Bawn         Dawn           Dawn         0.00           Bawn         Dawn           Dawn         18.00           Bawn         18.00           Dawn         18.00           Dawn         18.00           Dawn         13.00           Dawn         13.00           Dawn         13.00           Dawn         0.90           Dawn  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 6 6 0 0 0 0 3 YEAR 1 0 0 3 YEAR 1 0 0 0 3 YEAR 1 0 0 0 1 0 1 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0  | 1007%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%  | 2.00<br>0.00<br>0.00<br>0.00<br>0.00<br>MEAN<br>Accidents<br>or Year<br>4.33<br>0.00<br>0.67<br>0.33<br>0.00<br>0.67<br>0.33<br>1.33<br>1.30<br>1.00<br>0.67<br>0.33<br>1.30<br>1.30<br>1.00<br>0.00<br>0.67<br>0.33<br>1.30<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00   | Cause(s)<br>(8)<br>(18)<br>(20)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(21)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2)<br>(2       | Counter-<br>measure(s)<br>21<br>22<br>22<br>13<br>21<br>13<br>21<br>5<br>5<br>20   |



#### 3.15.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 117 Avenue and SW 120 Street were performed on a typical weekday on November 17, 2010. A summary of the traffic data is presented in *Figure 59*, and the field review is presented in *Figure 60*.

This T-intersection has double left-turn lanes for northbound and eastbound approaches, and the southbound and eastbound approaches have exclusive right-turn lanes. The signal operation is protected for northbound left-turn traffic.

Heavy traffic and long queues were observed for eastbound approach and northbound leftturn traffic. Also, vehicles were observed changing lanes and weaving at these approaches.

Red light running was observed at the intersection, especially northbound left-turns.

Speeding was observed for northbound and southbound approaches. Additionally, southbound right-turn vehicles were observed taking the curve at a high rate of speed.

Further, it was observed that the eastbound right-turn traffic conflict with the southbound through traffic and a better channelization needs to be implemented.

#### 3.15.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 117 Avenue and SW 120 Street, the following is recommended:

- Lengthen the eastbound left-turn lanes to approximately 600 ft. each.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Installing lane use signs (R3-8) for all approaches.
- Modifying the channelization of the eastbound right-turns.
- Provide/repair the pedestrian features including ADA approved pedestrian ramps.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 61.





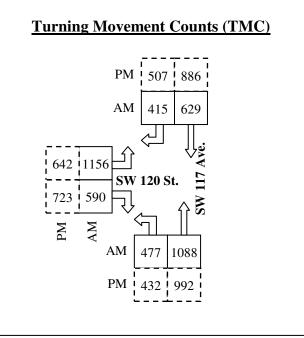


Figure 59: Traffic Data – SW 117 Avenue and SW 120 Street





Figure 60: Field Review – SW 117 Avenue and SW 120 Street



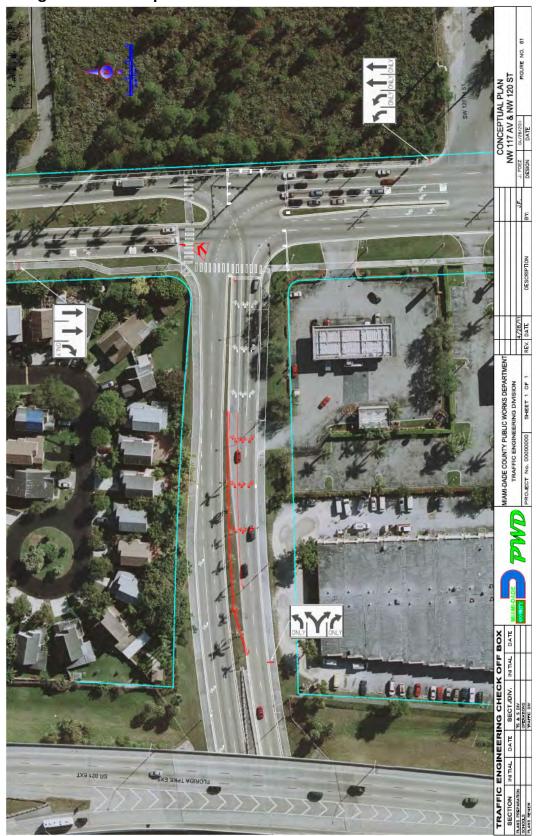


Figure 61: Conceptual Plan – SW 117 Avenue and SW 120 Street

Safety Studies at High Crash Locations Countywide



### 3.16. SW 137 Avenue and SW 136 Street

### 3.16.1. Site Description

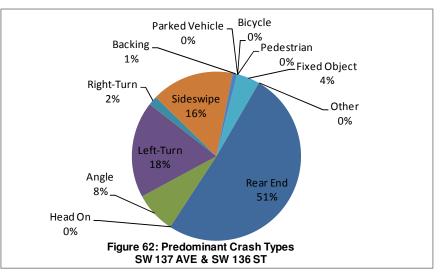
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 137 Avenue is a six lane urban arterial divided by a raised median that runs north-south, and SW 136 Street is a four lane major collector divided by a raised median that runs east-west.

## 3.16.2. Safety Conditions and Analysis

The intersection of SW 137 Avenue and SW 136 Street is ranked number 16 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 114 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 38. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 62*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 36* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.353, 1.648, and 1.795, respectively. The safety ratio for the three years averaged 1.599. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that rear end, left-turn and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 37*.



|                         |   | (6 Lane    | x 4 Lane.    |                                  |                            |             | 4 Leg Inters |                              | e 35) - URBAN      | N Spot                               |                       |                                      |                  |
|-------------------------|---|------------|--------------|----------------------------------|----------------------------|-------------|--------------|------------------------------|--------------------|--------------------------------------|-----------------------|--------------------------------------|------------------|
|                         | [   |            | R OF CF      |                                  | 3 YEAR                     | %           | MEAN         |                              |                    | ASH VALUE                            | ABNORM                | ALLY HIGH                            | CRASHES          |
|                         | TYPE OF CRASH   | 2006       | YEAR<br>2007 | 2008                             | TOTAL                      | of<br>Total | Accidents    | MEAN                         | 90th<br>Percentile | 95th<br>Percentile                   | Mean                  | 90th<br>Percentil                    | 95th<br>Percenti |
|                         | Rear End  | 18         | 20           | 20                               | 58                         | 25%         | 19.33        | 8.68                         | 17.26              | 18.90                                | Х                     | X                                    | X                |
|                         | Head On   | 0          | 0            | 0                                | 0                          | 0%          | 0.00         | 0.60                         | 1.64               | 1.84                                 |                       |                                      |                  |
|                         | Angle   | 2          | 1 7          | 6                                | 9<br>21                    | 3%<br>8%    | 3.00<br>7.00 | 5.40<br>3.00                 | 9.19<br>6.13       | 9.92<br>6.73                         | x                     | x                                    | x                |
|                         | Left Turn<br>Right Turn   | 2          | 0            | 8<br>0                           | 21                         | 8%<br>1%    | 0.67         | 0.46                         | 1.36               | 1.53                                 | X                     | <u>^</u>                             | ^                |
|                         | Sideswipe   | 2          | 8            | 8                                | 18                         | 5%          | 6.00         | 2.58                         | 4.92               | 5.37                                 | X                     | X                                    | x                |
|                         | Backed Into   | 1          | 0            | 0                                | 1                          | 0%          | 0.33         | 0.28                         | 0.84               | 0.94                                 | X                     |                                      |                  |
|                         | Coll. w/ Parked Car   | 0          | 0            | 0                                | 0                          | 0%          | 0.00         | 0.12                         | 0.57               | 0.65                                 |                       |                                      |                  |
|                         | Coll. w/ Pedestrian   | 0          | 0            | 0                                | 0                          | 0%          | 0.00         | 0.74                         | 1.80               | 2.00                                 |                       |                                      |                  |
|                         | Coll. w/ Bicycle  | 0          | 0            | 0                                | 0                          | 0%          | 0.00         | 0.14                         | 0.49               | 0.55                                 |                       |                                      |                  |
|                         | Fixed Object<br>Ran Off Road  | 1          | 3            | 1                                | 5                          | 1%<br>0%    | 1.67<br>0.00 | 0.79 0.01                    | 2.01<br>0.11       | 2.24<br>0.13                         | X                     |                                      |                  |
|                         | Overtuned   | 0          | 0            | 0                                | 0                          | 0%          | 0.00         | 0.01                         | 0.28               | 0.33                                 |                       |                                      |                  |
|                         | Other   | 0          | 0            | 0                                | 0<br>0                     | 0%          | 0.00         | 8.67                         | 21.05              | 23.42                                |                       |                                      |                  |
|                         | Total Crashes   | 32         | 39           | 43                               | 114                        | 24%         | 38.00        | 31.51                        | 54.94              | 59.43                                | Х                     |                                      |                  |
| SEVERITY                | PDO crashes   | 30         | 38           | 41                               | 109                        | 96%         | 36.33        | 19.21                        | 36.95              | 40.35                                | Х                     |                                      |                  |
|                         | Fatal crashes   | 0          | 0            | 0                                | 0                          | 0%          | 0.00         | 0.16                         | 0.56               | 0.63                                 |                       |                                      |                  |
|                         | Injury crashes  | 2          | 1            | 2                                | 5                          | 4%          | 1.67         | 20.77                        | 38.34              | 41.71                                |                       | I                                    | ļ                |
|                         | Day Light   | 26         | 33           | 31                               | 90                         | 79%         | 30.00        | 19.89                        | 35.12              | 38.03                                | х                     |                                      |                  |
|                         | Dusk<br>Dawn  | 1          | 0            | 0                                | 1                          | 1%<br>3%    | 0.33         | 0.61 0.38                    | 1.43               | 1.58<br>1.16                         | x                     | <u> </u>                             |                  |
|                         | Dawn<br>Dark  | 5          | 6            | 9                                | 20                         | 18%         | 6.67         | 10.22                        | 18.94              | 20.61                                | ^                     | <u> </u>                             |                  |
|                         | Unknown   | 0          | 0            | 0                                | 0                          | 0%          | 0.07         | 0.41                         | 1.15               | 1.30                                 |                       | 1                                    |                  |
| URFACE CONDITIONS       |   | 26         | 35           | 41                               | 102                        | 89%         | 34.00        | 26.41                        | 45.71              | 49.41                                | х                     | 1                                    |                  |
| -                       | Wet   | 2          | 4            | 2                                | 8                          | 7%          | 2.67         | 4.41                         | 8.78               | 9.62                                 |                       |                                      |                  |
|                         | Others  | 4          | 0            | 0                                | 4                          | 4%          | 1.33         | 0.69                         | 1.88               | 2.11                                 | X                     |                                      |                  |
| MONTH OF A YEAR         | January   | 3          | 3            | 4                                | 10                         | 9%          | 3.33         | 2.57                         | 5.04               | 5.52                                 | X                     |                                      |                  |
|                         | February  | 2          | 6            | 6                                | 14                         | 12%         | 4.67         | 2.37                         | 4.59               | 5.02                                 | X                     | X                                    |                  |
|                         | March<br>April  | 03         | 5            | 1 4                              | 2<br>12                    | 2%<br>11%   | 0.67 4.00    | 3.09<br>2.57                 | 5.92<br>5.30       | 6.46<br>5.82                         | x                     |                                      |                  |
|                         | May   | 4          | 2            | 5                                | 11                         | 10%         | 3.67         | 2.51.                        | 4.81               | 5.25                                 | ^                     |                                      |                  |
|                         | June  | 2          | 4            | 7                                | 13                         | 11%         | 4.33         | 2.81                         | 5.74               | 6.30                                 | х                     |                                      |                  |
|                         | July  | 2          | 2            | 2                                | 6                          | 5%          | 2.00         | 2.60                         | 4.96               | 5.42                                 |                       |                                      |                  |
|                         | August  | 3          | 4            | 5                                | 12                         | 11%         | 4.00         | 3.00                         | 5.66               | 6.17                                 | X                     |                                      |                  |
|                         | September   | 3          | 3            | 0                                | 6                          | 5%          | 2.00         | 2.48                         | 4.92               | 5.39                                 |                       |                                      |                  |
|                         | October   | 5          | 4            | 3                                | 12                         | 11%         | 4.00         | 2.89                         | 5.40               | 5.88                                 | X                     |                                      |                  |
|                         | November  | 5          | 3            | 3                                | 11                         | 10%         | 3.67         | 2.41                         | 4.85               | 5.32                                 | X                     |                                      |                  |
| DAY OF THE WEEK         | December<br>Sunday  | 0          | 2            | 3<br>5                           | 5                          | 4%<br>6%    | 1.67<br>2.33 | 2.22<br>4.00                 | 4.55<br>6.58       | 5.00<br>7.08                         |                       |                                      |                  |
|                         | Monday  | 1          | 6            | 6                                | 13                         | 11%         | 4.33         | 4.62                         | 9.23               | 10.11                                |                       |                                      |                  |
|                         | Tuesday   | 6          | 8            | 5                                | 19                         | 17%         | 6.33         | 4.46                         | 7.81               | 8.46                                 | х                     |                                      |                  |
|                         | Wednesday   | 10         | 5            | 5                                | 20                         | 18%         | 6.67         | 4.56                         | 8.62               | 9.40                                 | Х                     |                                      |                  |
|                         | Thursday  | 6          | 6            | 7                                | 19                         | 17%         | 6.33         | 5.04                         | 9.04               | 9.80                                 | X                     |                                      |                  |
|                         | Friday  | 7          | 7            | 9                                | 23                         | 20%         | 7.67         | 4.86                         | 9.39               | 10.26                                | Х                     |                                      |                  |
|                         | Saturday  | 1          | 6            | 6                                | 13                         | 11%         | 4.33         | 3.98                         | 8.10               | 8.89                                 | Х                     |                                      |                  |
|                         | 00:00-06:00<br>06:00-09:00  | 0          | 1            | 1                                | 2<br>15                    | 2%<br>13%   | 0.67 5.00    | 3.79<br>3.44                 | 8.65<br>6.94       | 9.58                                 | x                     |                                      |                  |
|                         | 09:00-11:00   | 5          | 6<br>5       | 5                                | 13                         | 11%         | 4.33         | 2.58                         | 5.30               | 7.61<br>5.82                         | X                     |                                      |                  |
|                         | 11:00-13:00   | 6          | 7            | 8                                | 21                         | 18%         | 7.00         | 3.12                         | 5.78               | 6.29                                 | x                     | x                                    | x                |
|                         | 13:00-15:00   | 5          | 4            | 8                                | 17                         | 15%         | 5.67         | 3.57                         | 6.32               | 6.85                                 | X                     | ~                                    | ~                |
|                         | 15:00-18:00   | 6          | 8            | 7                                | 21                         | 18%         | 7.00         | 6.38                         | 11.52              | 12.50                                | X                     |                                      |                  |
|                         | 18:00-24:00   | 6          | 8            | 11                               | 25                         | 22%         | 8.33         | 8.60                         | 15.51              | 16.83                                |                       |                                      |                  |
|                         |   |            |              |                                  |                            | YEAR        |              | 3-Year                       | 1                  |                                      |                       |                                      |                  |
|                         |   |            |              |                                  |                            | 2           | 3            |                              |                    |                                      |                       |                                      |                  |
|                         |   |            |              |                                  | 1                          | -           |              | Average                      | -                  |                                      |                       |                                      |                  |
| Average Daily Traffic A | DT (Vehicles per D  | lay)       |              |                                  | 55,981                     | 57,123      | 58,289       | 57,131                       | 1                  |                                      |                       |                                      |                  |
| -lorida Average Crash   | rate (Crashes per   | Million En | tering Ve    | hicles)                          | 0.579                      | 0.568       | 0.566        | 0.571                        | 1                  |                                      |                       |                                      |                  |
| Fraffic Base            |   |            |              |                                  | 20.433                     | 20.850      | 21.275       | 20.853                       | 1                  |                                      |                       |                                      |                  |
|                         |   |            |              |                                  |                            |             |              |                              | 4                  |                                      |                       |                                      |                  |
| Actual Crash Rate (Cra  |   | -          | ,            |                                  | 1.566                      | 1.871       | 2.021        | 1.819                        | 4                  |                                      |                       |                                      |                  |
| Critical Crash Rate (Cr | rashes per Million E  | Entering V | ehicles)     |                                  | 1.157                      | 1.135       | 1.126        | 1.139                        | 1                  |                                      |                       |                                      |                  |
| Safety Ratio            |   |            |              |                                  | 1.353                      | 1.648       | 1.795        | 1.599                        | 1                  |                                      |                       |                                      |                  |
| High Crash Location     | 22  |            |              |                                  | YES                        | YES         | YES          | YES                          | 1                  |                                      |                       |                                      |                  |
| Actual Crash F          |   | 0 ,000     |              |                                  |                            | f crashes   | or number o  |                              | type occurrin      | ng in a 1 year                       | period.               |                                      |                  |
|                         | $ute = AVR + \frac{0.5}{TB} + \frac{0.5}{TB}$   | 112        | 2            | <i>TB</i> = Tr<br><i>TF</i> = Te | affic Base<br>st Factor (z | z-value)    |              | a particular<br>el for RURAL |                    | Confidence 1<br>68.3<br>86.6         | Level (%)             | nt.<br>Constant Z<br>1.00<br>1.50    | ]                |
|                         | $\frac{Years \times ADT \times 3}{1,000,000}$ $= \frac{Actual Crash}{Critical Crash}$ |            | _            | = 3.                             | 29 (assume                 | 99.95% (    | Confidence I | Level for URE                | BAN areas)         | 90.0<br>95.0<br>95.5<br>98.8<br>99.0 | 0<br>0<br>0<br>0<br>0 | 1.64<br>1.96<br>2.00<br>2.50<br>2.58 |                  |
| зајегу Кино -           | Critical Cras   | h Rate     |              |                                  |                            |             |              |                              |                    | 99.7<br>99.9                         | 0                     | 3.00<br>3.29                         |                  |

# Table 36 – Crash Analysis – SW 137 Avenue and SW 136 Street



## Table 37 – Abnormal Crash Details & Countermeasures SW 137 Avenue and SW 136 Street

|                         |                                     |   |   |  |   | treet   |   |  |              |            |
|-------------------------|-------------------------------------|---|---|--|---|---|---|--|--------------|------------|
|                         | (6 Lane x 4 L                       | ane, Signalized, W  | ith Turn La   | anes, 4 Le   | eg Interse  | ction -Table  | e 35) - URI   | BAN Spot   |              |            |
|                         |                                     |   | NUMBE   | R OF CF  | ASHES   | 3 YEAR  | %   | MEAN   |              |            |
|                         |                                     |   |   | YEAR   |   | TOTAL   | of  | Accidents  | Possible     | Counter-   |
|                         |                                     |   | 2006  | 2007   | 2008  | CRASHE  | Total   | per Year   | Cause(s)     | measure(s) |
|                         | Total Rear Er                       | nd Crashes  | 18  | 2007   | 2000  | 58  | 100%  | 19.33  | (1)          | 2          |
|                         | Total Hoar El                       | Day Light   | 16  | 16   | 15  | 47  | 81%   | 15.67  | (2)          | 5          |
|                         | Lighting Conditions                 | Dawn  | 0   | 0  | 2   | 2   | 3%  | 0.67   | (4)          | 6          |
|                         | Lighting Conditions                 | Dark  | 2   | 4  | 3   | 9   | 16%   | 3.00   | (4)          | 0          |
|                         |                                     | 00:00 - 06:00   | 0   | 0  | 0   | 0   | 0%  | 0.00   | (0)          |            |
|                         |                                     | 06:00 - 09:00   | 1   | 6  | 1   | 8   | 14%   | 2.67   |              |            |
|                         |                                     | 09:00 - 11:00   | 4   | 0  | 2   | 6   | 10%   | 2.07   |              |            |
|                         | Hours of Day                        | 11:00 - 13:00   | 3   | 2  | 4   | 9   | 16%   | 3.00   |              |            |
| Rear End                | Tiours of Day                       | 13:00 - 15:00   | 3   | 3  | 6   | 9<br>12   | 21%   | 4.00   |              |            |
|                         |                                     |   |   |  | 3   | 12  |   |  |              |            |
|                         |                                     | 15:00 - 18:00   | 4   | 5  |   |   | 21%   | 4.00   |              |            |
|                         |                                     | 18:00 - 24:00   | 3   | 4  | 4   | 11  | 19%   | 3.67   |              |            |
|                         |                                     | North   | 9   | 6  | 5   | 20  | 34%   | 6.67   |              |            |
|                         | Discotion                           | South   | 5   | 8  | 8   | 21  | 36%   | 7.00   |              |            |
|                         | Direction                           | East  | 3   | 3  | 3   | 9   | 16%   | 3.00   |              |            |
|                         |                                     | West  | 1   | 3  | 4   | 8   | 14%   | 2.67   |              |            |
|                         |                                     | Unknown   | 0   | 0  | 0   | 0   | 0%  | 0.00   |              |            |
|                         |                                     |   |   |  |   |   |   |  |              |            |
|                         |                                     |   | NUMBE   | R OF CF  | ASHES   | 3 YEAR  | %   | MEAN   | Possible     | Counter-   |
|                         |                                     |   |   | YEAR   |   | TOTAL   | of  | Accidents  |              |            |
|                         |                                     |   | 2006  | 2007   | 2008  | CRASHE  | Total   | per Year   | Cause(s)     | measure(s) |
|                         | Total Left tur                      | n Crashes   | 6   | 7  | 8   | 21  | 100%  | 7.00   | (4)          | 6          |
|                         |                                     | Day Light   | 4   | 7  | 5   | 16  | 76%   | 5.33   | (9)          | 13         |
|                         | Lighting Conditions                 | Dawn  | 0   | 0  | 2   | 2   | 10%   | 0.67   | (13)         | -          |
|                         |                                     | Dark  | 2   | 0  | 1   | 3   | 14%   | 1.00   | (,           |            |
|                         | <b> </b>                            | 00:00 - 06:00   | 0   | 0  | 0   | 0   | 0%  | 0.00   |              |            |
|                         |                                     | 06:00 - 09:00   | 1   | 0  | 2   | 3   | 14%   | 1.00   |              |            |
|                         |                                     | 09:00 - 11:00   | 0   | 3  | 1   | 4   | 19%   | 1.33   |              |            |
|                         | Hours of Day                        | 11:00 - 13:00   | 1   | 3  | 0   | 4   | 19%   | 1.33   |              |            |
| Left Turn               |                                     | 13:00 - 15:00   | 2   | 0  | 0   | 2   | 10%   | 0.67   |              |            |
|                         |                                     | 15:00 - 18:00   | 0   | 1  | 1   | 2   | 10%   | 0.67   |              |            |
|                         |                                     | 18:00 - 24:00   | 2   | 0  | 4   | 6   | 29%   | 2.00   |              |            |
|                         |                                     | $NB \rightarrow WB$   | 3   | 0  | 5   | 8   | 38%   | 2.67   |              |            |
|                         |                                     |   | 0   | 0  | 0   | 0   | 0%  | 0.00   |              |            |
|                         | Direction                           | $WB \to SB$ $SB \to EB$   | 3   | 5  | 2   | 10  | 48%   | 3.33   |              |            |
|                         | Direction                           | -   |   |  |   |   |   |  |              |            |
|                         |                                     | $EB \rightarrow NB$   | 0   | 2  | 1   | 3   | 14%   | 1.00   |              |            |
|                         |                                     | Unknown   | 0   | 0  | 0   | 0   | 0%  | 0.00   |              |            |
|                         |                                     |   |   |  |   |   |   |  |              |            |
|                         |                                     |   | NUMBE   | R OF CF  | ASHES   | 3 YEAR  | %   | MEAN   | Possible     | Counter-   |
|                         |                                     |   |   | YEAR   |   | TOTAL   | of  | Accidents  | Cause(s)     |            |
|                         |                                     |   | 2006  | 2007   | 2008  | CRASHE  | Total   | per Year   | Cause(s)     | measure(s) |
|                         | T-t-LO'-L                           | na Craabaa  | 2   | 8  | 8   | 18  | 100%  | 6.00   | (8)          | 19         |
|                         | Total Sideswi                       |   | 4   |  | 0   | 10  |   |  |              | 21         |
|                         |                                     |   | 2   | 7  | 5   | 14  | 78%   | 4.67   | (18)         |            |
|                         |                                     | Day Light<br>Dawn   |   | 7  | F   | 4.4   | 78%   | 4.67<br>0.00   | (18)<br>(19) | 22         |
|                         |                                     | Day Light<br>Dawn   | 2   | 7  | 5<br>0  | 14  | 78%<br>0%   | 0.00   | (19)         |            |
|                         |                                     | Day Light<br>Dawn<br>Dark   | 2<br>0<br>0   | 7<br>0<br>1  | 5<br>0<br>3   | 14<br>0<br>4  | 78%<br>0%<br>22%  | 0.00<br>1.33   |              |            |
|                         |                                     | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00  | 2<br>0<br>0<br>0  | 7<br>0<br>1<br>0   | 5<br>0<br>3<br>1  | 14<br>0<br>4<br>1   | 78%<br>0%<br>22%<br>6%  | 0.00<br>1.33<br>0.33   | (19)         |            |
|                         |                                     | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00   | 2<br>0<br>0<br>0<br>1   | 7<br>0<br>1<br>0<br>0                                    | 5<br>0<br>3<br>1<br>0   | 14<br>0<br>4<br>1<br>1                                    | 78%<br>0%<br>22%<br>6%<br>6%  | 0.00<br>1.33<br>0.33<br>0.33   | (19)         |            |
| Sideswipe               | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00  | 2<br>0<br>0<br>0<br>1<br>0                                    | 7<br>0<br>1<br>0<br>0<br>1                               | 5<br>0<br>3<br>1<br>0<br>1                                    | 14<br>0<br>4<br>1<br>1<br>2                               | 78%<br>0%<br>22%<br>6%<br>6%<br>11%   | 0.00<br>1.33<br>0.33<br>0.33<br>0.67   | (19)         |            |
| Sideswipe<br>(Overtake) |                                     | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00   | 2<br>0<br>0<br>1<br>1<br>0<br>1                               | 7<br>0<br>1<br>0<br>0<br>1<br>1                          | 5<br>0<br>3<br>1<br>0<br>1<br>0                               | 14<br>0<br>4<br>1<br>2<br>2                               | 78%<br>0%<br>22%<br>6%<br>6%<br>11%<br>11%  | 0.00<br>1.33<br>0.33<br>0.33<br>0.67<br>0.67   | (19)         |            |
| Sideswipe<br>(Overtake) | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00  | 2<br>0<br>0<br>1<br>0<br>1<br>0<br>1<br>0                     | 7<br>0<br>1<br>0<br>0<br>1<br>1<br>1<br>1                | 5<br>0<br>3<br>1<br>0<br>1<br>0<br>2                          | 14<br>0<br>4<br>1<br>2<br>2<br>3                          | 78%<br>0%<br>22%<br>6%<br>6%<br>11%<br>11%<br>11%   | 0.00<br>1.33<br>0.33<br>0.67<br>0.67<br>1.00   | (19)         |            |
|                         | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 09:00<br>11:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00                           | 2<br>0<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>0                | 7<br>0<br>1<br>0<br>0<br>1<br>1<br>1<br>2                | 5<br>0<br>3<br>1<br>0<br>1<br>0<br>2<br>2<br>2                | 14<br>0<br>4<br>1<br>2<br>2<br>3<br>4                     | 78%<br>0%<br>22%<br>6%<br>6%<br>11%<br>11%<br>11%<br>22%  | 0.00<br>1.33<br>0.33<br>0.67<br>0.67<br>1.00<br>1.33                                 | (19)         |            |
|                         | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 09:00<br>11:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00          | 2<br>0<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0           | 7<br>0<br>1<br>0<br>1<br>1<br>1<br>2<br>3                | 5<br>0<br>3<br>1<br>0<br>1<br>0<br>2<br>2<br>2<br>2           | 14<br>0<br>4<br>1<br>2<br>2<br>3<br>4<br>5                | 78%<br>0%<br>22%<br>6%<br>6%<br>11%<br>11%<br>17%<br>22%<br>28%   | 0.00<br>1.33<br>0.33<br>0.67<br>0.67<br>1.00<br>1.33<br>1.67                         | (19)         |            |
|                         | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North | 2<br>0<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0           | 7<br>0<br>1<br>0<br>1<br>1<br>1<br>2<br>3<br>3           | 5<br>0<br>3<br>1<br>0<br>1<br>2<br>2<br>2<br>2<br>3           | 14<br>0<br>4<br>1<br>2<br>2<br>3<br>4<br>5<br>6           | 78%           0%           22%           6%           11%           11%           22%           28%           33%               | 0.00<br>1.33<br>0.33<br>0.67<br>0.67<br>1.00<br>1.33<br>1.67<br>2.00                 | (19)         |            |
|                         | Lighting Conditions<br>Hours of Day | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South         | 2<br>0<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 7<br>0<br>1<br>0<br>1<br>1<br>1<br>2<br>3<br>3<br>3<br>3 | 5<br>0<br>3<br>1<br>0<br>2<br>2<br>2<br>3<br>1                | 14<br>0<br>4<br>1<br>2<br>3<br>4<br>5<br>6<br>4           | 78%           0%           22%           6%           11%           11%           22%           28%           33%           22% | 0.00<br>1.33<br>0.33<br>0.67<br>0.67<br>1.00<br>1.33<br>1.67<br>2.00<br>1.33         | (19)         |            |
|                         | Lighting Conditions                 | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>06:00 - 09:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 24:00<br>North<br>South<br>East | 2<br>0<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>2 | 7<br>0<br>1<br>0<br>1<br>1<br>1<br>2<br>3<br>3<br>3<br>2 | 5<br>0<br>3<br>1<br>0<br>1<br>2<br>2<br>2<br>2<br>3<br>1<br>3 | 14<br>0<br>4<br>1<br>2<br>2<br>3<br>4<br>5<br>6<br>4<br>7 | 78%<br>0%<br>22%<br>6%<br>6%<br>11%<br>11%<br>17%<br>22%<br>28%<br>33%<br>22%<br>39%  | 0.00<br>1.33<br>0.33<br>0.67<br>0.67<br>1.00<br>1.33<br>1.67<br>2.00<br>1.33<br>2.33 | (19)         |            |
|                         | Lighting Conditions<br>Hours of Day | Day Light<br>Dawn<br>Dark<br>00:00 - 06:00<br>09:00 - 11:00<br>11:00 - 13:00<br>13:00 - 15:00<br>15:00 - 18:00<br>18:00 - 24:00<br>North<br>South         | 2<br>0<br>0<br>1<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 7<br>0<br>1<br>0<br>1<br>1<br>1<br>2<br>3<br>3<br>3<br>3 | 5<br>0<br>3<br>1<br>0<br>2<br>2<br>2<br>3<br>1                | 14<br>0<br>4<br>1<br>2<br>3<br>4<br>5<br>6<br>4           | 78%           0%           22%           6%           11%           11%           22%           28%           33%           22% | 0.00<br>1.33<br>0.33<br>0.67<br>0.67<br>1.00<br>1.33<br>1.67<br>2.00<br>1.33         | (19)         |            |



#### 3.16.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 137 Avenue and SW 136 Street were performed on a typical weekday on November 18, 2010. A summary of the traffic data is presented in *Figure 63*, and the field review is presented in *Figure 64*.

This intersection has single left-turn bays for northbound/southbound approaches, and the eastbound/westbound approaches have double left-turn lanes. The signal operation is split phases for eastbound and westbound traffic, and protected/permissive for northbound and southbound left-turn traffic.

Heavy traffic and long queues were observed for northbound and southbound approaches and eastbound/westbound left-turn traffic. Also, vehicles were observed changing lanes and weaving at these approaches.

This intersection presents a large offset alignment between northbound and southbound leftturn lanes. The northbound/southbound left-turn movement struggles to cross the opposing through movement.

Long queues were observed for westbound left-turn with vehicles spilling back and blocking the through lane. Speeding was observed for northbound and southbound approaches, and red light running was observed at the intersection.

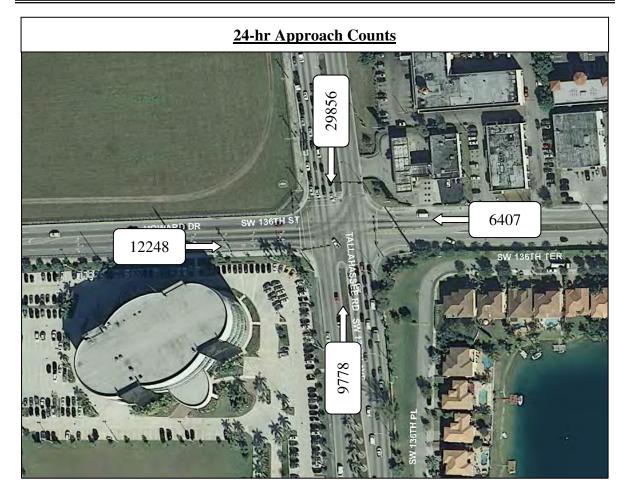
#### 3.16.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 137 Avenue and SW 136 Street, the following is recommended:

- Lengthen the westbound left-turn lane to 300 ft. and provide raised median.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Reduce the offset between northbound and southbound left turn lanes by reducing the median width and creating striped gores.
- Add pedestrian crosswalks, ADA approved pedestrian ramps and signal heads at east and south legs.
- Resurfacing the intersection.
- Refurbishing of pavement markings using thermoplastic painting.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 65.





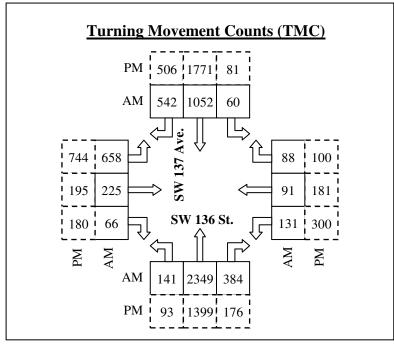


Figure 63: Traffic Data – SW 137 Avenue and SW 136 Street





Figure 64: Field Review – SW 137 Avenue and SW 136 Street



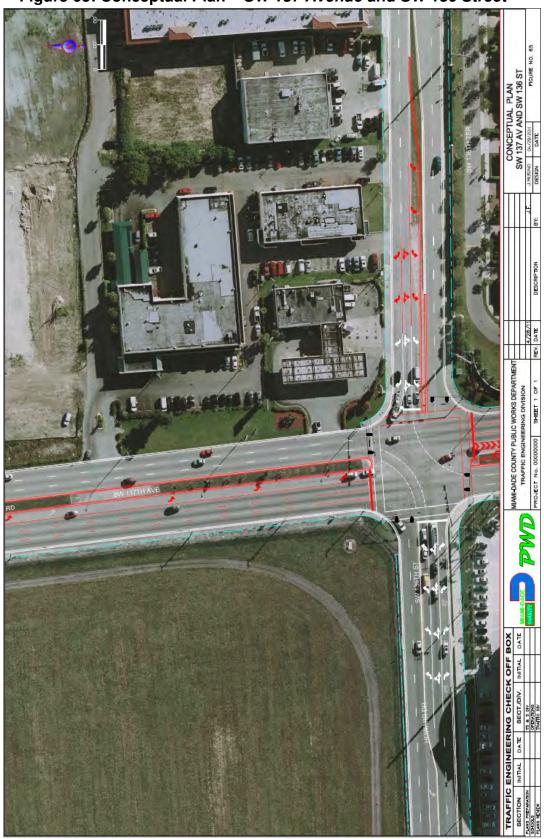


Figure 65: Conceptual Plan – SW 137 Avenue and SW 136 Street



### 3.17. SW 97 Avenue and SW 24 Street

## 3.17.1. Site Description

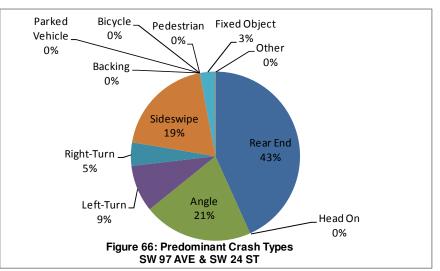
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 97 Avenue is a four lane urban arterial divided by a paved median that runs north-south, and SW 24 Street is a four lane urban arterial divided by a raised median that runs east-west.

### 3.17.2. Safety Conditions and Analysis

The intersection of SW 97 Avenue and SW 24 Street is ranked number 17 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 67 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 22. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 66*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 38* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 0.896, 1.135, and 1.500, respectively. The safety ratio for the three years averaged 1.177. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that fixed object collisions presented abnormal crash pattern that exceeds the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 39*.



|                        |  | (4 ) or :-       | v 4 lors  |         |   |                        | SW 24 S                       |                | 28) - URBAN     | Spot   |                  |  |                 |
|------------------------|--|------------------|-----------|---------|---|------------------------|-------------------------------|----------------|-----------------|--|------------------|--|-----------------|
|                        |  |                  |           |         |   |                        |                               |                |                 |  |                  |  |                 |
|                        | TYPE OF CRASH                                  | NUMBE            | R OF CF   | ASHES   | 3 YEAR<br>TOTAL                           | %<br>of                | MEAN<br>Accidents             |                | ANNUAL CF       | ASH VALUE<br>95th                                  | ABNORM<br>Mean   | ALLY HIGH<br>90th                            | CRASHES<br>95th |
|                        |  | 2006             | 2007      | 2008    | CRASHE                                    | Total                  | per Year                      |                |                 | Percentile   |                  | Percentil                                    | Percenti        |
| OLLISION TYPE          | Rear End<br>Head On                            | 7                | 12        | 10<br>0 | 29<br>0                                   | 22%<br>0%              | 9.67<br>0.00                  | 5.70<br>0.33   | 16.96<br>1.02   | 19.12<br>1.15                                      | Х                |  |                 |
|                        | Angle  | 2                | 0         | 5       | 14  | 9%                     | 4.67                          | 3.05           | 7.08            | 7.85   | х                |  |                 |
|                        | Left Turn                                      | 1                | 1         | 4       | 6   | 4%                     | 2.00                          | 1.67           | 4.02            | 4.47   | X                |  |                 |
|                        | Right Turn                                     | 0                | 1         | 2       | 3   | 2%                     | 1.00                          | 0.33           | 1.25            | 1.42   | X                | 1  |                 |
|                        | Sideswipe                                      | 6                | 1         | 6       | 13  | 7%                     | 4.33                          | 1.60           | 4.64            | 5.22   | Х                |  |                 |
|                        | Backed Into                                    | 0                | 0         | 0       | 0   | 0%                     | 0.00                          | 0.17           | 0.56            | 0.63   |                  |  |                 |
|                        | Coll. w/ Parked Car                            | 0                | 0         | 0       | 0   | 0%                     | 0.00                          | 0.10           | 0.51            | 0.59   |                  |  |                 |
|                        | Coll. w/ Pedestrian<br>Coll. w/ Bicycle        | 0                | 0         | 0       | 0   | 0%<br>0%               | 0.00                          | 0.28           | 1.04<br>0.33    | 1.19   |                  |  |                 |
|                        | Fixed Object                                   | 1                | 0         | 1       | 2   | 1%                     | 0.00                          | 0.09           | 0.33            | 0.38   | x                | x  | x               |
|                        | Ran Off Road                                   | 0                | 0         | 0       | 0   | 0%                     | 0.00                          | 0.00           | 0.00            | 0.00   | ~                | ^  | ~               |
|                        | Overtuned                                      | 0                | 0         | 0       | 0   | 0%                     | 0.00                          | 0.03           | 0.21            | 0.24   |                  |  |                 |
|                        | Other  | 0                | 0         | 0       | 0   | 0%                     | 0.00                          | 3.70           | 8.83            | 9.82   |                  |  |                 |
|                        | Total Crashes                                  | 17               | 22        | 28      | 67  | 24%                    | 22.33                         | 17.77          | 40.96           | 45.39  | X                |  |                 |
| EVERITY                | PDO crashes                                    | 16               | 17        | 24      | 57  | 85%                    | 19.00                         | 9.93           | 22.30           | 24.67  | X                |  |                 |
|                        | Fatal crashes                                  | 0                | 0         | 0       | 0   | 0%<br>15%              | 0.00                          | 0.05           | 0.26 33.08      | 0.29   |                  |  |                 |
| IGHT CONDITIONS        | Injury crashes                                 | 13               | 5<br>13   | 4<br>22 | 10<br>48                                  | 72%                    | 3.33<br>16.00                 | 13.14<br>12.40 | 29.18           | 36.90<br>32.39                                     | х                | -  |                 |
|                        | Day Light<br>Dusk                              | 0                | 0         | 0       | 40  | 0%                     | 0.00                          | 0.28           | 0.87            | 0.98   | ^                | +  |                 |
|                        | Dawn   | 0                | 0         | 0       | 0   | 0%                     | 0.00                          | 0.17           | 0.56            | 0.63   |                  | 1  |                 |
|                        | Dark   | 4                | 9         | 6       | 19  | 28%                    | 6.33                          | 4.56           | 10.53           | 11.68  | Х                |  |                 |
|                        | Unknown  | 0                | 0         | 0       | 0   | 0%                     | 0.00                          | 0.35           | 1.05            | 1.18   |                  |  |                 |
| URFACE CONDITIONS      |  | 12               | 16        | 18      | 46  | 69%                    | 15.33                         | 15.30          | 34.45           | 38.12  | Х                |  |                 |
|                        | Wet  | 0                | 2         | 1       | 3   | 4%                     | 1.00                          | 2.10           | 6.02            | 6.76   |                  | <u> </u>                                     |                 |
|                        | Others   | 5                | 4         | 9       | 18  | 27%                    | 6.00                          | 0.37           | 1.10            | 1.24   | Х                | X  | х               |
| IONTH OF A YEAR        | January<br>February                            | 0                | 2         | 2       | 4   | 6%<br>0%               | 1.33<br>0.00                  | 1.42<br>1.42   | 3.33<br>3.53    | 3.69<br>3.93                                       |                  | +  |                 |
|                        | March  | 0                | 3         | 1       | 4   | 0%<br>6%               | 1.33                          | 1.42           | 4.12            | 4.59   |                  | +  |                 |
|                        | April  | 2                | 0         | 4       | 6   | 9%                     | 2.00                          | 1.30           | 3.21            | 3.57   | х                | 1  |                 |
|                        | May  | 1                | 1         | 1       | 3   | 4%                     | 1.00                          | 1.74           | 4.46            | 4.99   |                  |  |                 |
|                        | June   | 0                | 2         | 3       | 5   | 7%                     | 1.67                          | 1.38           | 3.49            | 3.90   | X                |  |                 |
|                        | July   | 2                | 4         | 2       | 8   | 12%                    | 2.67                          | 1.35           | 3.22            | 3.58   | Х                |  |                 |
|                        | August   | 1                | 6         | 2       | 9   | 13%                    | 3.00                          | 1.56           | 3.99            | 4.46   | X                |  |                 |
|                        | September                                      | 4                | 1         | 7       | 12  | 18%                    | 4.00                          | 1.46           | 3.73            | 4.16   | Х                | X  |                 |
|                        | October<br>November                            | 0                | 1         | 1 4     | 2   | 3%<br>16%              | 0.67 3.67                     | 1.47<br>1.39   | 3.59<br>3.53    | 4.00<br>3.94                                       | x                | x  |                 |
|                        | December                                       | 2                | 0         | 4       | 3   | 4%                     | 1.00                          | 1.61           | 4.43            | 4.97   | ^                | <u> </u>                                     |                 |
| AY OF THE WEEK         | Sunday   | 1                | 3         | 5       | 9   | 13%                    | 3.00                          | 1.46           | 3.47            | 3.85   | х                |  |                 |
|                        | Monday   | 1                | 5         | 2       | 8   | 12%                    | 2.67                          | 2.70           | 6.42            | 7.13   |                  |  |                 |
|                        | Tuesday  | 7                | 2         | 5       | 14  | 21%                    | 4.67                          | 2.49           | 6.18            | 6.88   | Х                |  |                 |
|                        | Wednesday                                      | 1                | 5         | 2       | 8   | 12%                    | 2.67                          | 2.56           | 5.84            | 6.47   | Х                |  |                 |
|                        | Thursday                                       | 2                | 5         | 5       | 12  | 18%                    | 4.00                          | 2.88           | 7.20            | 8.03   | X                |  |                 |
|                        | Friday   | 3                | 2         | 6       | 11  | 16%                    | 3.67                          | 3.07           | 7.50            | 8.35   | X                |  |                 |
| OUR OF THE DAY         | Saturday<br>00:00-06:00                        | 2                | 0         | 3       | 5   | 7%<br>10%              | 1.67<br>2.33                  | 2.61<br>1.70   | 6.40<br>3.39    | 7.13<br>3.71                                       | х                |  |                 |
|                        | 06:00-09:00                                    | 1                | 2         | 6       | 9   | 13%                    | 3.00                          | 1.98           | 5.12            | 5.72   | x                |  |                 |
|                        | 09:00-11:00                                    | 1                | 2         | 1       | 4   | 6%                     | 1.33                          | 1.72           | 4.23            | 4.71   | ~                |  |                 |
|                        | 11:00-13:00                                    | 5                | 1         | 6       | 12  | 18%                    | 4.00                          | 2.40           | 6.30            | 7.05   | Х                |  |                 |
|                        | 13:00-15:00                                    | 2                | 2         | 4       | 8   | 12%                    | 2.67                          | 1.95           | 5.32            | 5.96   | X                |  |                 |
|                        | 15:00-18:00                                    | 3                | 4         | 5       | 12  | 18%                    | 4.00                          | 3.58           | 7.81            | 8.62   | Х                |  |                 |
|                        | 18:00-24:00                                    | 4                | 8         | 3       | 15  | 22%                    | 5.00                          | 4.42           | 10.63           | 11.82  | Х                |  |                 |
|                        |  |                  |           |         |   |                        |                               |                | -               |  |                  |  |                 |
|                        |  |                  |           |         |   | YEAR                   |                               | 3-Year         |                 |  |                  |  |                 |
|                        |  |                  |           |         | 1   | 2                      | 3                             | Average        |                 |  |                  |  |                 |
| verage Daily Traffic A | DT (Vehicles ner F                             | )av)             |           |         | 57,074                                    | 58,238                 | 59,427                        | 58,246         | 1               |  |                  |  |                 |
|                        |  | ••               | torizz 1/ | hial    |   |                        |                               |                | 1               |  |                  |  |                 |
| lorida Average Crash   | rate (Urashes per l                            | villion En       | tering Ve | nicies) | 0.420                                     | 0.424                  | 0.394                         | 0.413          | 4               |  |                  |  |                 |
| raffic Base            |  |                  |           |         | 20.832                                    | 21.257                 | 21.691                        | 21.260         | 1               |  |                  |  |                 |
| ctual Crash Rate (Cr   | rashes per Million E                           | nterina V        | ehicles)  |         | 0.816                                     | 1.035                  | 1.291                         | 1.047          | 1               |  |                  |  |                 |
| Critical Crash Rate (C |  | -                |           |         |   |                        |                               |                | 1               |  |                  |  |                 |
|                        | asnes per minion E                             | ening V          | enicies)  |         | 0.911                                     | 0.912                  | 0.860                         | 0.895          | 4               |  |                  |  |                 |
| Safety Ratio           |  |                  |           |         | 0.896                                     | 1.135                  | 1.500                         | 1.177          |                 |  |                  |  |                 |
| ligh Crash Location    | ??   |                  |           |         | NO  | YES                    | YES                           | YES            |                 |  |                  |  |                 |
| •                      | $Rate = \frac{A \times 1,00}{V}$               | 0 ,000           |           |         |   | f crashes              | or number of                  |                | type occurrin   | ng in a 1 year                                     | period.          |  |                 |
|                        | $ate = AVR + \frac{0.5}{TB} + 2$               |                  | 2         | TB = Tr | Average Sta<br>affic Base<br>st Factor (z |                        | ash Rate for                  | a particular   | type of interse | ection or road                                     | Level (%)        | Constant Z                                   | ]               |
|                        | $\frac{Years \times ADT \times 30}{1,000,000}$ |                  |           | = 1.    | 96 (assume                                | ə 95% <sup>′</sup> Cor | nfidence Leve<br>Confidence L |                |                 | 68.30<br>86.60<br>90.00<br>95.00<br>95.50<br>98.80 | 0<br>0<br>0<br>0 | 1.00<br>1.50<br>1.64<br>1.96<br>2.00<br>2.50 |                 |
| Safety Ratio           | $= \frac{Actual Crash}{Critical Crash}$        | n Rate<br>h Rate | -         |         |   |                        |                               |                |                 | 98.80<br>99.00<br>99.70<br>99.95                   | D<br>D           | 2.50<br>2.58<br>3.00<br>3.29                 |                 |

# Table 38 – Crash Analysis – SW 97 Avenue and SW 24 Street



# Table 39 – Abnormal Crash Details & CountermeasuresSW 97 Avenue and SW 24 Street

|              |                     | SW               | 97 Aveni    | Je & SV         | V 24 St   | reet            |                   |                   |                      |                        |
|--------------|---------------------|------------------|-------------|-----------------|-----------|-----------------|-------------------|-------------------|----------------------|------------------------|
|              | (4 Lane x 4 l       | ane, Signalized, | With Turn L | anes, 4 L       | eg Inters | ection-table    | 28) - URB         | AN Spot           |                      |                        |
|              |                     |                  |             | R OF CR<br>YEAR |           | 3 YEAR<br>TOTAL | %<br>of           | MEAN<br>Accidents | Possible<br>Cause(s) | Counter-<br>measure(s) |
|              | Total Fixed Ob      | ioot Crachoo     | 2006        | 2007<br>0       | 2008      | CRASHE          | Total             | per Year          |                      | 12                     |
|              | TOLAL FIXED OD      | Day Light        | 0           | 0               | 0         | <b>2</b><br>0   | <u>100%</u><br>0% | 0.67<br>0.00      | (6)<br>(17)          | 12                     |
|              | Lighting Conditions | Dawn             | 0           | 0               | 0         | 0               | 0%                | 0.00              | (25)                 | 28                     |
|              |                     | Dark             | 1           | 0               | 1         | 2               | 100%              | 0.67              | ( - )                | -                      |
|              |                     | 00:00 - 06:00    | 0           | 0               | 0         | 0               | 0%                | 0.00              |                      |                        |
|              |                     | 06:00 - 09:00    | 0           | 0               | 0         | 0               | 0%                | 0.00              |                      |                        |
|              |                     | 09:00 - 11:00    | 0           | 0               | 0         | 0               | 0%                | 0.00              |                      |                        |
| Fixed Object | Hours of Day        | 11:00 - 13:00    | 0           | 0               | 0         | 0               | 0%                | 0.00              |                      |                        |
| Fixed Object |                     | 13:00 - 15:00    | 0           | 0               | 0         | 0               | 0%                | 0.00              |                      |                        |
|              |                     | 15:00 - 18:00    | 0           | 0               | 0         | 0               | 0%                | 0.00              |                      |                        |
|              |                     | 18:00 - 24:00    | 1           | 0               | 1         | 2               | 100%              | 0.67              |                      |                        |
|              |                     | North            | 0           | 0               | 1         | 1               | 50%               | 0.33              |                      |                        |
|              |                     | South            | 0           | 0               | 0         | 0               | 0%                | 0.00              |                      |                        |
|              | Direction           | East             | 0           | 0               | 0         | 0               | 0%                | 0.00              |                      |                        |
|              |                     | West             | 1           | 0               | 0         | 1               | 50%               | 0.33              |                      |                        |
|              |                     | Unknown          | 0           | 0               | 0         | 0               | 0%                | 0.00              |                      |                        |

### 3.17.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 97 Avenue and SW 24 Street were performed on a typical weekday on November 2, 2010. A summary of the traffic data is presented in *Figure 67*, and the field review is presented in *Figure 68*.

This intersection has single left-turn bays for all approaches, and the northbound receiving lanes merge from two lanes to one lane. The signal operation is protected/permissive for all left-turn movements.

It was observed that the westbound left-turn lane is inadequate to handle the left-turn movement.

It was observed that the driveways in the southeast corner are located very close to the intersection. Also, extensive number of trees located in the southwest corner presents a hazard and visual obstruction.

The merging condition in the north leg needs warning signs. Additionally, lack of lighting was observed at the intersection.

Pedestrians (a high percentage is elderly) find it difficult to cross SW 24 Street due to short walk time. Also, red light running was observed at the intersection.

The southbound approach two-way middle lane needs to be modified to handle the southbound left-turn demand.



#### 3.17.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 97 Avenue and SW 24 Street, the following is recommended:

- Lengthen the westbound left-turn lane to approximately 500 ft.
- Lengthen the southbound left-turn lane to approximately 350 ft.
- Increase the walk time for pedestrians crossing SW 24 Street.
- Install lane end and merge signs (W9-2L & W4-2) on north leg northbound.
- Install a 40 mph speed limit sign on east leg eastbound.
- Modify the landscape in the southwest corner to reduce the clutter of trees.
- Provide ADA approved pedestrian ramps at all corners.
- Refurbishing of pavement markings using thermoplastic painting.
- Improving lighting system at the intersection.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 69.





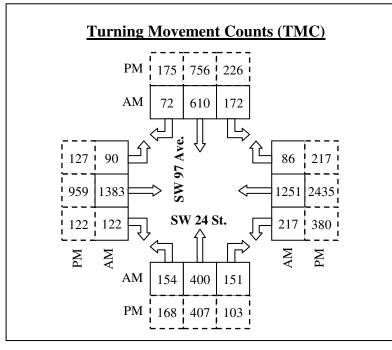


Figure 67: Traffic Data – SW 97 Avenue and SW 24 Street





Figure 68: Field Review – SW 97 Avenue and SW 24 Street





Figure 69: Conceptual Plan – SW 97 Avenue and SW 24 Street

Safety Studies at High Crash Locations Countywide



## 3.18. SW 122 Avenue and SW 26 Street (Coral Way)

#### 3.18.1. Site Description

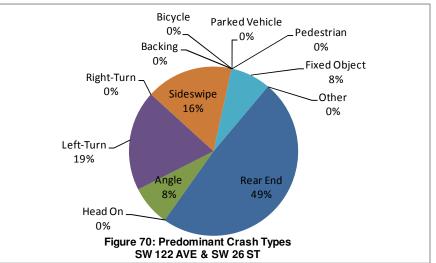
This intersection is a signalized four legged intersection located in the unincorporated area of southwest Miami Dade County. SW 122 Avenue is a four lane major collector divided by a paved median that runs north-south, and SW 26 Street (Coral Way) is a four lane urban arterial divided by a raised median that runs east-west.

#### 3.18.2. Safety Conditions and Analysis

The intersection of SW 122 Avenue and SW 26 Street is ranked number 18 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 78 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 26. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 70*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 40* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.236, 1.631, and 1.312, respectively. The safety ratio for the three years averaged 1.393. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that left-turn and fixed object collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 41*.



|                         | (4  | Lane x 4                  | Lane, Si     |            |  |             | SW 26 S               |                               | able28) - URE      | AN Spot  |             |  |                  |
|-------------------------|---|---------------------------|--------------|------------|--|-------------|-----------------------|-------------------------------|--------------------|--|-------------|--|------------------|
|                         |   | NUMBE                     | R OF CR      | ASHES      | 3 YEAR                                     | %           | MEAN                  | EXPECTED                      | -                  | ASH VALUE  | ABNORM      | -  |                  |
|                         | TYPE OF CRASH                                 | 2006                      | YEAR<br>2007 | 2008       | CRASHE                                     | of<br>Total | Accidents<br>per Year | MEAN                          | 90th<br>Percentile | 95th<br>Percentile                                 | Mean        | 90th<br>Percentil                            | 95th<br>Percenti |
| COLLISION TYPE          | Rear End                                      | 9                         | 15           | 14         | 38   | 24%         | 12.67                 | 5.70                          | 16.96              | 19.12  | Х           |  |                  |
|                         | Head On<br>Angle                              | 0                         | 0            | 0          | 0  | 0%<br>3%    | 0.00 2.00             | 0.33<br>3.05                  | 1.02<br>7.08       | 1.15<br>7.85                                       |             |  |                  |
|                         | Left Turn                                     | 6                         | 3            | 6          | 15   | 8%          | 5.00                  | 1.67                          | 4.02               | 4.47   | х           | x  | x                |
|                         | Right Turn                                    | 0                         | 0            | 0          | 0  | 0%          | 0.00                  | 0.33                          | 1.25               | 1.42   |             |  |                  |
|                         | Sideswipe<br>Backed Into                      | 5                         | 5            | 3          | 13<br>0                                    | 6%<br>0%    | 4.33<br>0.00          | 1.60<br>0.17                  | 4.64<br>0.56       | 5.22<br>0.63                                       | X           |  |                  |
|                         | Coll. w/ Parked Car                           |                           | 0            | 0          | 0  | 0%          | 0.00                  | 0.10                          | 0.51               | 0.59   |             |  |                  |
|                         | Coll. w/ Pedestrian                           | 0                         | 0            | 0          | 0  | 0%          | 0.00                  | 0.28                          | 1.04               | 1.19   |             |  |                  |
|                         | Coll. w/ Bicycle<br>Fixed Object              | 0                         | 0            | 0          | 0  | 0%<br>2%    | 0.00 2.00             | 0.09                          | 0.33               | 0.38   | x           | x  | x                |
|                         | Ran Off Road                                  | 0                         | 0            | 0          | 0  | 0%          | 0.00                  | 0.03                          | 0.21               | 0.24   | ^           | <u>^</u>                                     | <u> </u>         |
|                         | Overtuned                                     | 0                         | 0            | 0          | 0  | 0%          | 0.00                  | 0.03                          | 0.21               | 0.24   |             |  |                  |
|                         | Other<br>Total Creabas                        | 0                         | 0            | 0          | 0<br>78                                    | 0%          | 0.00                  | 3.70                          | 8.83               | 9.82   | v           |  |                  |
| SEVERITY                | Total Crashes<br>PDO crashes                  | 23<br>22                  | 31<br>27     | 24<br>21   | 70   | 23%<br>90%  | 26.00<br>23.33        | 17.77<br>9.93                 | 40.96<br>22.30     | 45.39<br>24.67                                     | X           | x  |                  |
|                         | Fatal crashes                                 | 0                         | 0            | 0          | 0  | 0%          | 0.00                  | 0.05                          | 0.26               | 0.29   |             |  |                  |
|                         | Injury crashes                                | 1                         | 4            | 3          | 8  | 10%         | 2.67                  | 13.14                         | 33.08              | 36.90  | ~           | +  |                  |
| LIGHT CONDITIONS        | Day Light<br>Dusk                             | 18<br>0                   | 21<br>1      | 16<br>0    | 55   | 71%<br>1%   | 18.33<br>0.33         | 12.40<br>0.28                 | 29.18<br>0.87      | 32.39<br>0.98                                      | X           |  |                  |
|                         | Dawn  | 0                         | 0            | 0          | 0  | 0%          | 0.00                  | 0.17                          | 0.56               | 0.63   |             |  |                  |
|                         | Dark  | 4                         | 9            | 8          | 21   | 27%         | 7.00                  | 4.56                          | 10.53              | 11.68  | Х           |  |                  |
| SURFACE CONDITIONS      | Unknown<br>Dry                                | 1<br>10                   | 0<br>28      | 0<br>19    | 1<br>57                                    | 1%<br>73%   | 0.33                  | 0.35                          | 1.05<br>34.45      | 1.18<br>38.12                                      | x           |  |                  |
|                         | Wet   | 6                         | 3            | 4          | 13   | 17%         | 4.33                  | 2.10                          | 6.02               | 6.76   | Х           | 1  |                  |
|                         | Others  | 7                         | 0            | 1          | 8  | 10%         | 2.67                  | 0.37                          | 1.10               | 1.24   | X           | X  | Х                |
| MONTH OF A YEAR         | January<br>February                           | 1 2                       | 3            | 3          | 7  | 9%<br>6%    | 2.33<br>1.67          | 1.42<br>1.42                  | 3.33<br>3.53       | 3.69<br>3.93                                       | X<br>X      | +  |                  |
|                         | March   | 2                         | 5            | 2          | 9  | 12%         | 3.00                  | 1.67                          | 4.12               | 4.59   | X           |  |                  |
|                         | April   | 0                         | 5            | 2          | 7  | 9%          | 2.33                  | 1.30                          | 3.21               | 3.57   | Х           |  |                  |
|                         | May<br>June                                   | 0                         | 4            | 3          | 7  | 9%<br>10%   | 2.33<br>2.67          | 1.74                          | 4.46<br>3.49       | 4.99<br>3.90                                       | X           |  |                  |
|                         | July  | 3                         | 1            | 1          | 5  | 6%          | 1.67                  | 1.35                          | 3.49               | 3.58   | x           |  |                  |
|                         | August  | 1                         | 2            | 5          | 8  | 10%         | 2.67                  | 1.56                          | 3.99               | 4.46   | Х           |  |                  |
|                         | September                                     | 4                         | 4            | 4          | 12   | 15%<br>4%   | 4.00                  | 1.46<br>1.47                  | 3.73<br>3.59       | 4.16<br>4.00                                       | Х           | X  |                  |
|                         | October<br>November                           | 3                         | 0            | 1          | 3  | 4%          | 1.00                  | 1.47                          | 3.59               | 3.94   |             |  |                  |
|                         | December                                      | 3                         | 0            | 1          | 4  | 5%          | 1.33                  | 1.61                          | 4.43               | 4.97   |             |  |                  |
| DAY OF THE WEEK         | Sunday  | 4                         | 2            | 2          | 8  | 10%         | 2.67                  | 1.46                          | 3.47               | 3.85   | X           |  |                  |
|                         | Monday<br>Tuesday                             | 3                         | 3            | 4          | 10<br>15                                   | 13%<br>19%  | 3.33<br>5.00          | 2.70<br>2.49                  | 6.42<br>6.18       | 7.13<br>6.88                                       | X           |  |                  |
|                         | Wednesday                                     | 2                         | 5            | 5          | 12   | 15%         | 4.00                  | 2.56                          | 5.84               | 6.47   | Х           |  |                  |
|                         | Thursday                                      | 1                         | 7            | 6          | 14   | 18%         | 4.67                  | 2.88                          | 7.20               | 8.03   | Х           |  |                  |
|                         | Friday<br>Saturday                            | 6<br>4                    | 1<br>5       | 2          | 9<br>10                                    | 12%<br>13%  | 3.00<br>3.33          | 3.07<br>2.61                  | 7.50<br>6.40       | 8.35<br>7.13                                       | x           |  |                  |
| HOUR OF THE DAY         | 00:00-06:00                                   | 0                         | 4            | 0          | 4  | 5%          | 1.33                  | 1.70                          | 3.39               | 3.71   | ~           |  |                  |
|                         | 06:00-09:00                                   | 3                         | 4            | 1          | 8  | 10%         | 2.67                  | 1.98                          | 5.12               | 5.72   | Х           |  |                  |
|                         | 09:00-11:00<br>11:00-13:00                    | 1 7                       | 4            | 3          | 8  | 10%<br>15%  | 2.67<br>4.00          | 1.72<br>2.40                  | 4.23<br>6.30       | 4.71<br>7.05                                       | X           |  |                  |
|                         | 13:00-15:00                                   | 1                         | 3            | 1          | 5  | 6%          | 1.67                  | 1.95                          | 5.32               | 5.96   | ^           |  |                  |
|                         | 15:00-18:00                                   | 7                         | 8            | 8          | 23   | 29%         | 7.67                  | 3.58                          | 7.81               | 8.62   | X           |  |                  |
|                         | 18:00-24:00                                   | 4                         | 5            | 9          | 18   | 23%         | 6.00                  | 4.42                          | 10.63              | 11.82  | X           |  |                  |
|                         |   |                           |              |            |  | YEAR        |                       | 3-Year                        | 1                  |  |             |  |                  |
|                         |   |                           |              |            | 1  | 2           | 3                     | Average                       |                    |  |             |  |                  |
| Average Daily Traffic A | ADT (Vehicles ner F                           | Dav)                      |              |            | 55,501                                     | 56,633      | 57,789                | 56,641                        | 1                  |  |             |  |                  |
| Florida Average Crash   |   |                           | tering Vo    | hicles)    | 0.420                                      | 0.424       | 0.394                 | 0.413                         | 1                  |  |             |  |                  |
| 8                       | ale (Clashes per                              |                           | Sing ve      | 10103/     |  |             |                       |                               | -                  |  |             |  |                  |
| Traffic Base            | ,   |                           |              |            | 20.258                                     | 20.671      | 21.093                | 20.674                        | 4                  |  |             |  |                  |
| Actual Crash Rate (Cr   |   | -                         | ,            |            | 1.135                                      | 1.500       | 1.138                 | 1.258                         | 4                  |  |             |  |                  |
| Critical Crash Rate (C  | rashes per Million E                          | Entering V                | 'ehicles)    |            | 0.918                                      | 0.919       | 0.867                 | 0.902                         | 1                  |  |             |  |                  |
| Safety Ratio            |   |                           |              |            | 1.236                                      | 1.631       | 1.312                 | 1.393                         |                    |  |             |  |                  |
| High Crash Location     | ??  |                           |              |            | YES  | YES         | YES                   | YES                           |                    |  |             |  |                  |
| Actual Crash i          | $Rate = \frac{A \times 1,00}{V}$              | 0 ,000                    |              |            | al number o<br>rage Annua                  |             |                       | f crashes by                  | type occurrin      | ng in a 1 year                                     | period.     |  |                  |
| CriticalCrashRo         | $ate = AVR + \frac{0.5}{TB} + \frac{1}{TB}$   | $TF\sqrt{\frac{AVH}{TB}}$ | 2            | TB = Trans | Average Sta<br>affic Base<br>est Factor (z |             | ash Rate for          | a particular                  | type of interse    | ection or road                                     | Level (%)   | Constant Z                                   | ]                |
|                         | $\frac{Years \times ADT \times 3}{1,000,000}$ |                           |              | = 1.       | 96 (assume                                 | e 95% Cor   |                       | el for RURAL<br>Level for URE |                    | 68.30<br>86.60<br>90.00<br>95.00<br>95.50<br>98.80 | )<br>)<br>) | 1.00<br>1.50<br>1.64<br>1.96<br>2.00<br>2.50 |                  |
| Safety Ratio            | $= \frac{Actual Crash}{Critical Crash}$       | h Rate                    | -            |            |  |             |                       |                               |                    | 99.00<br>99.70<br>99.95                            | )           | 2.58<br>3.00<br>3.29                         |                  |

# Table 40 – Crash Analysis – SW 122 Avenue and SW 26 Street



# Table 41 – Abnormal Crash Details & CountermeasuresSW 122 Avenue and SW 26 Street

|                         |                               | SW 1   | 22 Aven     | ue & S      | W 26 St     | reet        |                   |                      |          |            |
|-------------------------|-------------------------------|--|-------------|-------------|-------------|-------------|-------------------|----------------------|----------|------------|
|                         | (4 Lane x 4 Lane              | e, Signalized, With                              |             |             |             |             | able28) - I       | JRBAN Spot           | t        |            |
|                         |                               |  |             | R OF CF     |             | 3 YEAR      | %                 | MEAN                 |          |            |
|                         |                               |  | NOMBL       | YEAR        | ASTILS      | TOTAL       | of                | Accidents            | Possible | Counter-   |
|                         |                               |  | 2006        | 2007        | 2008        | CRASHE      | Total             | per Year             | Cause(s) | measure(s) |
|                         | Total Left Tu                 | rnCrashes  | 6           | 3           | 6           | 15          | 100%              | 5.00                 | (4)      | 6          |
|                         |                               | Day Light  | 3           | 2           | 4           | 9           | 60%               | 3.00                 | (6)      | 12         |
|                         | Lighting Conditions           | Dawn   | 0           | 0           | 0           | 0           | 0%                | 0.00                 | (9)      | 13         |
|                         |                               | Dark   | 3           | 1           | 2           | 6           | 40%               | 2.00                 | (13)     |            |
|                         |                               | 00:00 - 06:00                                    | 0           | 1           | 0           | 1           | 7%                | 0.33                 | . ,      |            |
|                         |                               | 06:00 - 09:00                                    | 0           | 0           | 0           | 0           | 0%                | 0.00                 |          |            |
|                         |                               | 09:00 - 11:00                                    | 0           | 0           | 0           | 0           | 0%                | 0.00                 |          |            |
| 1 . <i>(</i> ) <b>T</b> | Hours of Day                  | 11:00 - 13:00                                    | 2           | 0           | 1           | 3           | 20%               | 1.00                 |          |            |
| Left Turn               | · ·                           | 13:00 - 15:00                                    | 0           | 1           | 0           | 1           | 7%                | 0.33                 |          |            |
|                         |                               | 15:00 - 18:00                                    | 1           | 1           | 2           | 4           | 27%               | 1.33                 |          |            |
|                         |                               | 18:00 - 24:00                                    | 3           | 0           | 3           | 6           | 40%               | 2.00                 |          |            |
|                         |                               | $NB \rightarrow WB$                              | 1           | 0           | 0           | 1           | 7%                | 0.33                 |          |            |
|                         |                               | $WB \rightarrow SB$                              | 2           | 1           | 3           | 6           | 40%               | 2.00                 |          |            |
|                         | Direction                     | $SB \rightarrow EB$                              | 0           | 0           | 0           | 0           | 0%                | 0.00                 |          |            |
|                         |                               | $EB \rightarrow NB$                              | 1           | 2           | 3           | 6           | 40%               | 2.00                 |          |            |
|                         |                               | Unknown  | 2           | 0           | 0           | 2           | 13%               | 0.67                 |          |            |
|                         |                               | ·  |             |             |             |             |                   | -                    |          |            |
|                         |                               |  | NUMBE       | R OF CF     | ACHES       | 3 YEAR      | %                 | MEAN                 |          |            |
|                         |                               |  | NOWIDE      | YEAR        |             | TOTAL       | of                | Accidents            | Possible | Counter-   |
|                         |                               |  | 2006        | 2007        | 2008        | CRASHE      | Total             | per Year             | Cause(s) | measure(s) |
|                         | Total Fixed Ob                | iect Crashes                                     | 1           | 4           | 1           |             | 100%              | 2.00                 | (6)      | 12         |
|                         |                               | Day Light  | 1           | 1           | 0           | 2           | 33%               | 0.67                 | (11)     | 17         |
|                         | Lighting Conditions           | Dawn   | 0           | 1           | 0           | 1           | 17%               | 0.33                 | (16)     | 20         |
|                         | <b>3</b> • <b>3</b> • • • • • | Dark   | 0           | 2           | 1           | 3           | 50%               | 1.00                 | (17)     |            |
|                         |                               | 00:00 - 06:00                                    | 0           | 2           | 0           | 2           | 33%               | 0.67                 | ()       |            |
|                         |                               | 06:00 - 09:00                                    | 0           | 0           | 0           | 0           | 0%                | 0.00                 |          |            |
|                         |                               | 09:00 - 11:00                                    | 0           | 0           | 0           | 0           | 0%                | 0.00                 |          |            |
|                         | Hours of Day                  | 11:00 - 13:00                                    | 0           | 0           | 0           | 0           | 0%                | 0.00                 |          |            |
| Fixed Object            | ,                             | 13:00 - 15:00                                    | 0           | 0           | 0           | 0           | 0%                | 0.00                 |          |            |
|                         |                               |  |             |             | -           | -           |                   |                      |          | 1          |
|                         |                               |  | 1           | 1           | 0           | 2           | 33%               | 0.67                 |          |            |
|                         |                               | 15:00 - 18:00<br>18:00 - 24:00                   | 1           | 1           | 0           | 2           | 33%<br>33%        | 0.67                 |          |            |
|                         |                               | 15:00 - 18:00                                    |             |             | -           |             |                   | 0.67                 |          |            |
|                         |                               | 15:00 - 18:00<br>18:00 - 24:00                   | 0           | 1           | 1           | 2           | 33%               |                      |          |            |
|                         | Direction                     | 15:00 - 18:00<br>18:00 - 24:00<br>North          | 0           | 1<br>0      | 1<br>0      | 2<br>1      | 33%<br>17%        | 0.67<br>0.33         |          |            |
|                         | Direction                     | 15:00 - 18:00<br>18:00 - 24:00<br>North<br>South | 0<br>1<br>0 | 1<br>0<br>1 | 1<br>0<br>0 | 2<br>1<br>1 | 33%<br>17%<br>17% | 0.67<br>0.33<br>0.33 |          |            |

### 3.18.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at SW 122 Avenue and SW 26 Street were performed on a typical weekday on November 2, 2010. A summary of the traffic data is presented in *Figure 71*, and the field review is presented in *Figure 72*.

This intersection has single left-turn bays for all approaches, and the westbound approach has an exclusive right-turn bay. The signal operation is protected/permissive for all left-turn movements.

Long queues were observed for southbound and westbound left-turns with vehicles spilling back and blocking the through lanes. Also the westbound left-turn movement struggles to cross the opposing eastbound through movement.

The merging condition in the south leg needs warning signs. Also, there are no warning signs for eastbound/westbound traffic to alert motorists of the curved east leg and the signal.

Red light running was observed at the intersection. Additionally, lack of lighting was observed at the intersection.

Lack of pedestrian features on the north and west legs was observed, and pedestrian ramps need to be ADA approved.

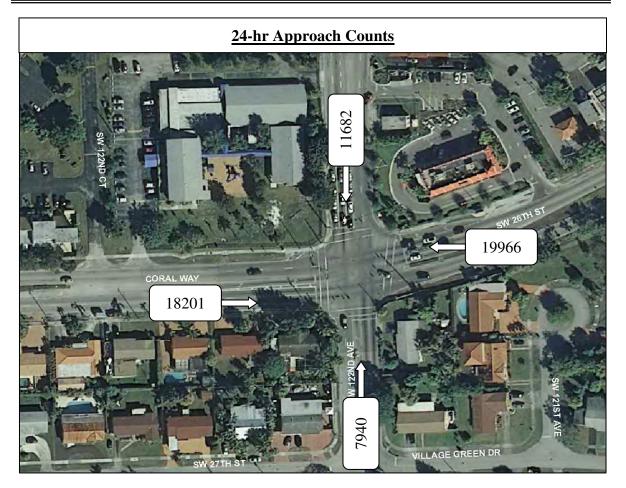
#### 3.18.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of SW 122 Avenue and SW 26 Street, the following is recommended:

- Lengthen the westbound left-turn lane to approximately 350 ft.
- Lengthen the southbound left-turn lane to approximately 500 ft.
- Retiming/optimizing of the existing signal while maintaining cycle length for both the AM and PM peak hours.
- Reduce the offset between eastbound and westbound left turn lanes by reducing the swale area in the southeast corner and shifting the median to the south.
- Installing curve warning signs (W1-2) for both eastbound and westbound approaches and "Signal Ahead" signs (W3-3) for westbound approach.
- Install lane end and merge signs (W9-2L & W4-2) on south leg southbound.
- Provide pedestrian signal heads to cross the north and west legs.
- Refurbishing of pavement markings using thermoplastic painting.
- Improving lighting system at the intersection.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 73.





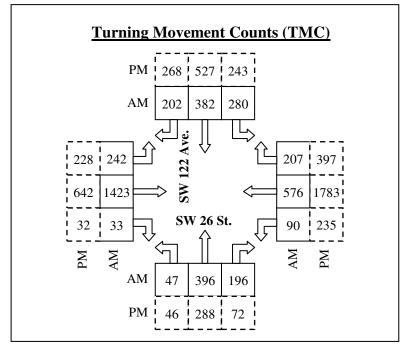


Figure 71: Traffic Data – SW 122 Avenue and SW 26 Street



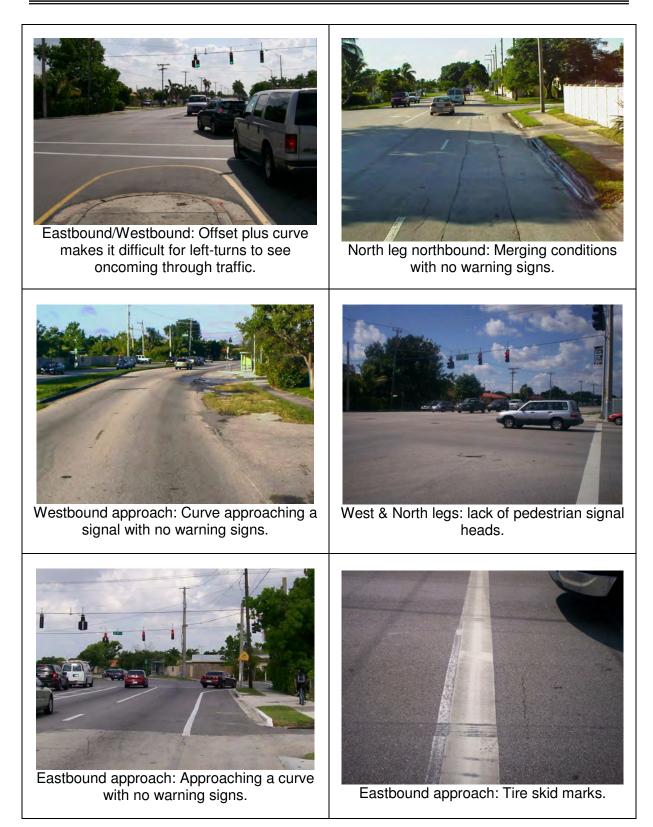


Figure 72: Field Review – SW 122 Avenue and SW 26 Street



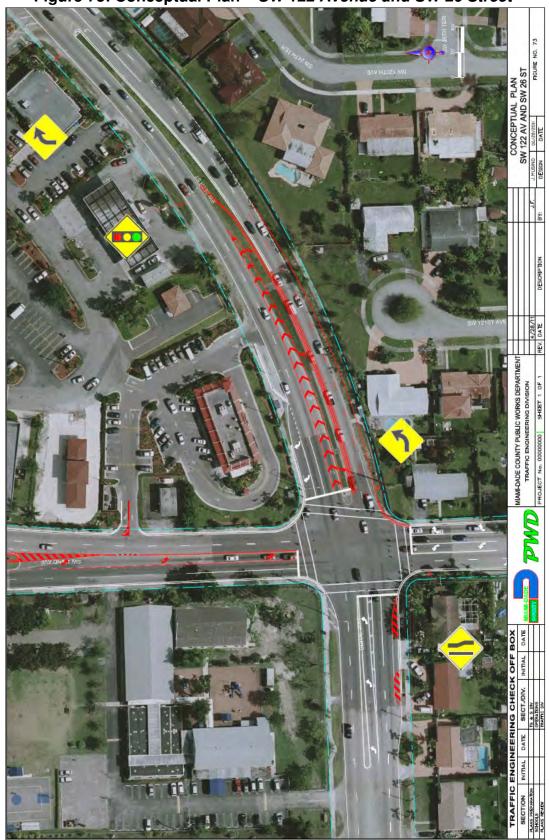


Figure 73: Conceptual Plan – SW 122 Avenue and SW 26 Street

Safety Studies at High Crash Locations Countywide



## 3.19. NW 79 Avenue and NW 58 Street

## 3.19.1. Site Description

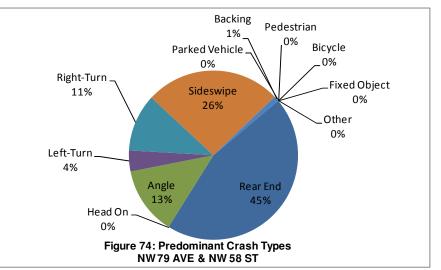
This intersection is a signalized four legged intersection located in the northwest part of Miami Dade County at the limit between unincorporated area and the City of Doral. NW 79 Avenue is a four lane major collector divided by a paved median that runs north-south, and NW 58 Street is a six lane arterial divided by a raised median that runs east-west.

### 3.19.2. Safety Conditions and Analysis

The intersection of NW 79 Avenue and NW 58 Street is ranked number 19 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 100 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 33. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 74*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 42* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 0.852, 1.419, and 1.148, respectively. The safety ratio for the three years averaged 1.140. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that right-turn and sideswipe collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 43*.



|                         |  | (4 ane                    | x 4   ane    |         |   |                  | 4 Leg Inters                 |                   | 28) - URBAN        | Spot                                      |             |                                      |                           |
|-------------------------|--|---------------------------|--------------|---------|---|------------------|------------------------------|-------------------|--------------------|---|-------------|--------------------------------------|---------------------------|
|                         |  |                           | R OF CF      |         | 3 YEAR                                    | %                | MEAN                         |                   |                    | RASH VALUE                                |             |                                      | CBASUE                    |
|                         | TYPE OF CRASH                                  | 2006                      | YEAR<br>2007 | 2008    | TOTAL                                     | %<br>of<br>Total | Accidents                    | MEAN              | 90th<br>Percentile | 95th                                      | Mean        | 90th<br>Percentil                    | 95th                      |
| COLLISION TYPE          | Rear End                                       | 10                        | 19           | 16      | 45  | 23%              | 15.00                        | 5.70              | 16.96              | 19.12                                     | x           | Percentin                            | Percenti                  |
|                         | Head On  | 0                         | 0            | 0       | 0   | 0%               | 0.00                         | 0.33              | 1.02               | 1.15                                      |             |                                      |                           |
|                         | Angle  | 4                         | 6            | 3       | 13  | 5%               | 4.33                         | 3.05              | 7.08               | 7.85                                      | X           |                                      |                           |
|                         | Left Turn                                      | 0                         | 1            | 3       | 4   | 2%<br>3%         | 1.33<br>3.67                 | 1.67              | 4.02               | 4.47                                      | x           | x                                    | x                         |
|                         | Right Turn<br>Sideswipe                        | 6<br>4                    | 3<br>13      | 2<br>9  | 11<br>26                                  | 3%               | 8.67                         | 0.33              | 1.25<br>4.64       | 1.42<br>5.22                              | x           | x                                    | <del>-</del> <del>x</del> |
|                         | Backed Into                                    | 1                         | 0            | 0       | 1   | 0%               | 0.33                         | 0.17              | 0.56               | 0.63                                      | x           | ^                                    | ^                         |
|                         | Coll. w/ Parked Car                            | 0                         | 0            | 0       | 0   | 0%               | 0.00                         | 0.10              | 0.51               | 0.59                                      |             |                                      |                           |
|                         | Coll. w/ Pedestrian                            | 0                         | 0            | 0       | 0   | 0%               | 0.00                         | 0.28              | 1.04               | 1.19                                      |             |                                      |                           |
|                         | Coll. w/ Bicycle                               | 0                         | 0            | 0       | 0   | 0%               | 0.00                         | 0.09              | 0.33               | 0.38                                      |             |                                      |                           |
|                         | Fixed Object                                   | 0                         | 0            | 0       | 0   | 0%               | 0.00                         | 0.03              | 0.21               | 0.24                                      |             |                                      |                           |
|                         | Ran Off Road<br>Overtuned                      | 0                         | 0            | 0       | 0   | 0%<br>0%         | 0.00                         | 0.00              | 0.00               | 0.00 0.24                                 |             |                                      |                           |
|                         | Other  | 0                         | 0            | 0       | 0   | 0%               | 0.00                         | 3.70              | 8.83               | 9.82                                      |             |                                      |                           |
|                         | Total Crashes                                  | 25                        | 42           | 33      | 100                                       | 24%              | 33.33                        | 17.77             | 40.96              | 45.39                                     | х           |                                      |                           |
| SEVERITY                | PDO crashes                                    | 23                        | 42           | 32      | 97  | 97%              | 32.33                        | 9.93              | 22.30              | 24.67                                     | x           | х                                    | X                         |
|                         | Fatal crashes                                  | 1                         | 0            | 0       | 1   | 1%               | 0.33                         | 0.05              | 0.26               | 0.29                                      | Х           | Х                                    | Х                         |
|                         | Injury crashes                                 | 1                         | 0            | 1       | 2   | 2%               | 0.67                         | 13.14             | 33.08              | 36.90                                     |             |                                      |                           |
| LIGHT CONDITIONS        | Day Light                                      | 20                        | 38           | 30      | 88  | 88%              | 29.33                        | 12.40             | 29.18              | 32.39                                     | X           | X                                    |                           |
|                         | Dusk   | 0                         | 0            | 0       | 0   | 0%               | 0.00                         | 0.28              | 0.87               | 0.98                                      | ~           |                                      | <u> </u>                  |
|                         | Dawn<br>Dark                                   | 0                         | 0            | 1       | 1   | 1%<br>11%        | 0.33 3.67                    | 0.17<br>4.56      | 0.56               | 0.63                                      | X           |                                      |                           |
|                         | Unknown  | 0                         | 4            | 2       | 0   | 0%               | 0.00                         | 4.56              | 1.05               | 1.18                                      |             |                                      |                           |
| SURFACE CONDITIONS      |  | 18                        | 39           | 27      | 84  | 84%              | 28.00                        | 15.30             | 34.45              | 38.12                                     | x           |                                      |                           |
|                         | Wet  | 2                         | 2            | 3       | 7   | 7%               | 2.33                         | 2.10              | 6.02               | 6.76                                      | X           |                                      |                           |
|                         | Others   | 5                         | 1            | 3       | 9   | 9%               | 3.00                         | 0.37              | 1.10               | 1.24                                      | Х           | Х                                    | Х                         |
| MONTH OF A YEAR         | January  | 1                         | 3            | 1       | 5   | 5%               | 1.67                         | 1.42              | 3.33               | 3.69                                      | X           |                                      |                           |
|                         | February                                       | 0                         | 5            | 2       | 7   | 7%               | 2.33                         | 1.42              | 3.53               | 3.93                                      | Х           |                                      |                           |
|                         | March  | 1                         | 0            | 1       | 2   | 2%<br>15%        | 0.67 5.00                    | 1.67<br>1.30      | 4.12<br>3.21       | 4.59<br>3.57                              | ~           | x                                    | x                         |
|                         | April<br>May                                   | 7                         | 3            | 5<br>3  | 15  | 7%               | 2.33                         | 1.30              | 4.46               | 4.99                                      | X           | ^                                    | ^                         |
|                         | June   | 5                         | 4            | 2       | 11  | 11%              | 3.67                         | 1.38              | 3.49               | 3.90                                      | X           | х                                    |                           |
|                         | July   | 2                         | 2            | 2       | 6   | 6%               | 2.00                         | 1.35              | 3.22               | 3.58                                      | X           | ^                                    |                           |
|                         | August   | 3                         | 2            | 8       | 13  | 13%              | 4.33                         | 1.56              | 3.99               | 4.46                                      | Х           | Х                                    |                           |
|                         | September                                      | 2                         | 5            | 5       | 12  | 12%              | 4.00                         | 1.46              | 3.73               | 4.16                                      | Х           | Х                                    |                           |
|                         | October  | 0                         | 6            | 1       | 7   | 7%               | 2.33                         | 1.47              | 3.59               | 4.00                                      | Х           |                                      |                           |
|                         | November                                       | 1                         | 5            | 2       | 8   | 8%               | 2.67                         | 1.39              | 3.53               | 3.94                                      | X           |                                      |                           |
|                         | December                                       | 2                         | 4            | 1       | 7   | 7%               | 2.33                         | 1.61              | 4.43               | 4.97                                      | Х           |                                      |                           |
| DAY OF THE WEEK         | Sunday   | 2                         | 0 7          | 3<br>5  | 5<br>15                                   | 5%<br>15%        | 1.67<br>5.00                 | 2.70<br>2.49      | 6.42<br>6.18       | 7.13<br>6.88                              | x           |                                      |                           |
|                         | Monday<br>Tuesday                              | 4                         | 12           | 6       | 22  | 22%              | 7.33                         | 2.49              | 5.84               | 6.47                                      | X           | x                                    | x                         |
|                         | Wednesday                                      | 3                         | 10           | 5       | 18  | 18%              | 6.00                         | 2.88              | 7.20               | 8.03                                      | X           | ^                                    | ^                         |
|                         | Thursday                                       | 3                         | 8            | 6       | 17  | 17%              | 5.67                         | 3.07              | 7.50               | 8.35                                      | X           |                                      |                           |
|                         | Friday   | 7                         | 5            | 6       | 18  | 18%              | 6.00                         | 2.61              | 6.40               | 7.13                                      | Х           |                                      |                           |
|                         | Saturday                                       | 3                         | 0            | 2       | 5   | 5%               | 1.67                         | 1.46              | 3.47               | 3.85                                      | Х           |                                      |                           |
| HOUR OF THE DAY         | 00:00-06:00                                    | 0                         | 0            | 1       | 1   | 1%               | 0.33                         | 1.70              | 3.39               | 3.71                                      |             |                                      |                           |
|                         | 06:00-09:00                                    | 2                         | 6            | 7       | 15  | 15%              | 5.00                         | 1.98              | 5.12               | 5.72                                      | X           |                                      |                           |
|                         | 09:00-11:00                                    | 3                         | 2            | 5       | 10  | 10%              | 3.33                         | 1.72              | 4.23               | 4.71                                      | X           |                                      |                           |
|                         | 11:00-13:00<br>13:00-15:00                     | 4                         | 6<br>8       | 5<br>4  | 15<br>14                                  | 15%<br>14%       | 5.00<br>4.67                 | 2.40<br>1.95      | 6.30<br>5.32       | 7.05<br>5.96                              | X<br>X      |                                      |                           |
|                         | 15:00-18:00                                    | 8                         | 14           | 7       | 29  | 29%              | 9.67                         | 3.58              | 7.81               | 8.62                                      | x           | х                                    | x                         |
|                         | 18:00-24:00                                    | 6                         | 6            | 4       | 16  | 16%              | 5.33                         | 4.42              | 10.63              | 11.82                                     | X           | ~                                    | ^                         |
|                         |  |                           |              |         |   |                  |                              |                   | •                  |   |             |                                      |                           |
|                         |  |                           |              |         | 1   | YEAR<br>2        | 3                            | 3-Year            |                    |   |             |                                      |                           |
| Average Daily Traffic A | NDT (Vehicles nor P                            | )av)                      |              |         | 1<br>88,168                               | 2<br>89,967      | 3<br>91,803                  | Average<br>89,979 | -                  |   |             |                                      |                           |
| Florida Average Crash   |  |                           | tering Vo    | hicles) | 0.490                                     | 0.486            | 0.458                        | 0.478             | 4                  |   |             |                                      |                           |
| 8                       | nate (Crashes per l                            | ∙mn∪n EN                  | uniy ve      |         |   |                  |                              |                   | 4                  |   |             |                                      |                           |
| Traffic Base            |  |                           |              |         | 32.181                                    | 32.838           | 33.508                       | 32.842            |                    |   |             |                                      |                           |
| Actual Crash Rate (Cr   | rashes per Million E                           | ntering V                 | ehicles)     |         | 0.777                                     | 1.279            | 0.985                        | 1.014             | 1                  |   |             |                                      |                           |
| Critical Crash Rate (C  | 1  | <u> </u>                  |              |         | 0.912                                     | 0.901            | 0.858                        | 0.890             | 1                  |   |             |                                      |                           |
|                         | aoneo per miniOn E                             |                           | 0/110/03/    |         |   |                  |                              |                   | 4                  |   |             |                                      |                           |
| Safety Ratio            |  |                           |              |         | 0.852                                     | 1.419            | 1.148                        | 1.140             | 1                  |   |             |                                      |                           |
| High Crash Location     | ??   |                           |              |         | NO  | YES              | YES                          | YES               |                    |   |             |                                      |                           |
| Actual Crash I          | $Rate = \frac{A \times 1,00}{V}$               | 0,000                     |              |         | al number o<br>rage Annua                 |                  |                              | f crashes by      | / type occurri     | ng in a 1 year                            | period.     |                                      |                           |
| CriticalCrashRo         | $ate = AVR + \frac{0.5}{TB} + 2$               | $TF\sqrt{\frac{AVH}{TB}}$ | 2            | TB = Tr | Average Sta<br>affic Base<br>st Factor (z |                  | ash Rate for                 | a particular      | type of inters     | ection or road                            |             | nt.<br>Constant Z                    | ר                         |
|                         | $\frac{Years \times ADT \times 30}{1,000,000}$ |                           |              | = 1.    | 96 (assume                                | 95% Cor          | nfidence Lev<br>Confidence I |                   |                    | 68.30<br>86.60<br>90.00<br>95.00<br>95.50 | )<br>)<br>) | 1.00<br>1.50<br>1.64<br>1.96<br>2.00 |                           |
| Safety Ratio            | $= \frac{Actual Crash}{Critical Crash}$        | n Rate<br>h Rate          | -            |         |   |                  |                              |                   |                    | 98.80<br>99.00<br>99.70<br>99.75          | )<br>)<br>) | 2.50<br>2.58<br>3.00<br>3.29         |                           |

# Table 42 – Crash Analysis – NW 79 Avenue and NW 58 Street



# Table 43 – Abnormal Crash Details & CountermeasuresNW 79 Avenue and NW 58 Street

|               |                     | NW                 | 79 Aven      | ue & N\    | N 58 St    | reet            |             |                       |          |            |
|---------------|---------------------|--------------------|--------------|------------|------------|-----------------|-------------|-----------------------|----------|------------|
|               | (4 Lane x 4 L       | ane, Signalized, W | /ith Turn La | anes, 4 Le | eg Interse | ction -Table    | e 28) - UR  | BAN Spot              |          |            |
|               |                     |                    |              |            |            |                 | •           |                       |          |            |
|               |                     |                    | NUMBE        | R OF CF    | ASHES      | 3 YEAR          | %           | MEAN                  | Possible | Counter-   |
|               |                     |                    | 2006         | 2007       | 2008       | TOTAL<br>CRASHE | of<br>Total | Accidents<br>per Year | Cause(s) | measure(s) |
|               | Total Right Tu      | ım Crashes         | 6            | 3          | 2000       | 11              | 100%        | 3.67                  | (1)      | 4          |
|               | i ota rigiti re     | Day Light          | 6            | 3          | 2          | 11              | 100%        | 3.67                  | (8)      | 9          |
|               | Lighting Conditions | Dawn               | 0            | 0          | 0          | 0               | 0%          | 0.00                  | (9)      | 21         |
|               |                     | Dark               | 0            | 0          | 0          | 0               | 0%          | 0.00                  | (-)      |            |
|               |                     | 00:00 - 06:00      | 0            | 0          | 0          | 0               | 0%          | 0.00                  |          |            |
|               |                     | 06:00 - 09:00      | 1            | 0          | 1          | 2               | 18%         | 0.67                  |          |            |
|               |                     | 09:00 - 11:00      | 1            | 0          | 1          | 2               | 18%         | 0.67                  |          |            |
| Dischet Terms | Hours of Day        | 11:00 - 13:00      | 2            | 0          | 0          | 2               | 18%         | 0.67                  |          |            |
| Right Turn    |                     | 13:00 - 15:00      | 0            | 2          | 0          | 2               | 18%         | 0.67                  |          |            |
|               |                     | 15:00 - 18:00      | 2            | 1          | 0          | 3               | 27%         | 1.00                  |          |            |
|               |                     | 18:00 - 24:00      | 0            | 0          | 0          | 0               | 0%          | 0.00                  |          |            |
|               |                     | NB→EB              | 4            | 2          | 1          | 7               | 64%         | 2.33                  |          |            |
|               |                     | EB→SB              | 0            | 0          | 0          | 0               | 0%          | 0.00                  |          |            |
|               | Direction           | WB→NB              | 2            | 1          | 1          | 4               | 36%         | 1.33                  |          |            |
|               |                     | SB→WB              | 0            | 0          | 0          | 0               | 0%          | 0.00                  |          |            |
|               |                     | Unknown            | 0            | 0          | 0          | 0               | 0%          | 0.00                  |          |            |
|               |                     |                    |              |            |            |                 |             |                       |          |            |
|               |                     |                    | NUMBE        | R OF CF    |            | 3 YEAR          | %           | MEAN                  |          |            |
|               |                     |                    | NOWER        | YEAR       |            | TOTAL           | of          | Accidents             | Possible | Counter-   |
|               |                     |                    | 2006         | 2007       | 2008       | CRASHE          | Total       | per Year              | Cause(s) | measure(s) |
|               | Total Sideswi       | oe Crashes         | 4            | 13         | 9          | 26              | 100%        | 8.67                  | (16)     | 19         |
|               |                     | Day Light          | 3            | 11         | 9          | 23              | 88%         | 7.67                  | (17)     | 20         |
|               | Lighting Conditions | Dawn               | 0            | 0          | 0          | 0               | 0%          | 0.00                  | (19)     | 21         |
|               |                     | Dark               | 1            | 2          | 0          | 3               | 12%         | 1.00                  | (20)     | 22         |
|               |                     | 00:00 - 06:00      | 0            | 0          | 0          | 0               | 0%          | 0.00                  | ( - )    |            |
|               |                     | 06:00 - 09:00      | 1            | 1          | 1          | 3               | 12%         | 1.00                  |          |            |
|               |                     | 09:00 - 11:00      | 0            | 2          | 3          | 5               | 19%         | 1.67                  |          |            |
| Sideswipe     | Hours of Day        | 11:00 - 13:00      | 0            | 3          | 1          | 4               | 15%         | 1.33                  |          |            |
| (Overtake)    |                     | 13:00 - 15:00      | 1            | 4          | 1          | 6               | 23%         | 2.00                  |          |            |
|               |                     | 15:00 - 18:00      | 1            | 2          | 3          | 6               | 23%         | 2.00                  |          |            |
|               |                     | 18:00 - 24:00      | 1            | 1          | 0          | 2               | 8%          | 0.67                  |          |            |
|               |                     | North              | 1            | 1          | 1          | 3               | 12%         | 1.00                  |          |            |
|               |                     | South              | 2            | 2          | 4          | 8               | 31%         | 2.67                  |          |            |
|               | Direction           | East               | 1            | 3          | 3          | 7               | 27%         | 2.33                  |          |            |
|               |                     | West               | 0            | 7          | 1          | 8               | 31%         | 2.67                  |          |            |
|               |                     | Unknown            | 0            | 0          | 0          | 0               | 0%          | 0.00                  |          |            |

### 3.19.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at NW 79 Avenue and NW 58 Street were performed on a typical weekday on November 23, 2010. A summary of the traffic data is presented in *Figure 75*, and the field review is presented in *Figure 76*.

This intersection has single left-turn bays for all approaches, except the southbound which has double left-turn lanes. The northbound, eastbound and westbound approaches have exclusive right-turn lanes. The signal operation is split phases for northbound and southbound traffic, and protected/permissive for eastbound and westbound left-turns.

This intersection handles a large number of heavy vehicles and trucks. Long queues were observed for northbound and westbound left-turns with vehicles were spilling back and blocking the through lane. Also, this east/west left-turn movement struggles to cross the opposing through movement.



There are no warning signs for southbound traffic to alert motorists of the curve and the approaching signal.

It was noticed that the wide recess at the southeast corner is confusing and motorists sometimes use it to park their vehicles. Also, due to that recess, northbound right-turns find it difficult to make a safe turn.

Red light running was observed at the intersection. Additionally, lack of lighting was observed at the intersection.

The eastbound right-turning vehicles suffer an inadequate turning radius to handle heavy vehicles and trucks.

Considerable weaving was observed in the eastbound/westbound and southbound approaches due to SR-826 ramps east of the intersection.

Capacity analysis was conducted for AM and PM traffic peak hours to evaluate existing conditions as well as improvements. *Table 44* depicts the analysis performed using Synchro 6.0. An assessment of Level of Services (LOS) analysis for peak periods indicated that this intersection is operating at LOS C during the AM peak period, and a failing LOS F during the PM peak. In addition, these analyses indicated that the northbound, southbound and eastbound movements are operating under substantial delay that generates failing conditions (LOS E & F) during the PM peak hours.

The results of the improvement and signal retiming/optimization yielded benefits mostly for the PM period. This was achieved by increasing the northbound/southbound split and modifying the left/through overlaps. As such, the overall LOS improved to D during the PM period with minor degradation to the southbound and westbound approaches.

|    |        |       | EB |    |    |     | WB |    |   |     |    | ١   | NB  |     | SB |    |     | Overall |
|----|--------|-------|----|----|----|-----|----|----|---|-----|----|-----|-----|-----|----|----|-----|---------|
|    |        |       | L  | Т  | R  | Арр | L  | Т  | R | Арр | L  | Т   | R   | Арр | L  | TR | Арр |         |
|    | Exist. | LOS   | В  | D  | А  | D   | D  | В  | А | С   | F  | Е   | Α   | D   | Е  | Е  | Е   | С       |
| AM |        | Delay | 19 | 40 | 10 | 37  | 45 | 11 | 0 | 21  | 98 | 77  | 9   | 41  | 60 | 55 | 57  | 32      |
|    | Modif. | LOS   | В  | D  | )  | D   | D  | В  | А | С   | D  | D   | Α   | С   | Е  | Е  | Е   | С       |
|    |        | Delay | 18 | 45 |    | 44  | 36 | 15 | 0 | 21  | 50 | 44  | 6   | 27  | 66 | 57 | 59  | 32      |
|    | Exist. | LOS   | В  | F  | В  | F   | Е  | В  | А | С   | Е  | F   | F   | F   | Е  | Е  | Е   | F       |
| РМ |        | Delay | 13 | 89 | 13 | 83  | 58 | 17 | 0 | 27  | 66 | 192 | 150 | 151 | 60 | 57 | 58  | 83      |
|    | Modif. | LOS   | В  | E  |    | D   | Е  | С  | А | С   | D  | D   | С   | D   | F  | Е  | Е   | D       |
|    |        | Delay | 18 | 50 | 6  | 55  | 64 | 24 | 0 | 34  | 45 | 51  | 25  | 38  | 94 | 66 | 76  | 46      |



### 3.19.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of NW 79 Avenue and NW 58 Street, the following is recommended:

- Converting the eastbound right turn lane to be a shared through and right-turn.
- Adding a third receiving lane to the eastbound movement.
- Retiming and optimizing the signal while maintaining cycle length for both the AM and PM peak hours.
- Removing the "Right Turn Lane Must Turn Right" sign (R3-7R) on eastbound approach.
- Installing new advance intersection lane use signs (R3-8) for both eastbound and westbound directions.
- Installing turn warning and "Signal Ahead" signs (W1-1 & W3-3) at southbound approach.
- Improving turning radius for both eastbound and westbound right turns.
- Improving roadway lighting.
- Pavement milling and resurfacing.
- Refurbishing of pavement markings and channelization guidelines.
- Trimming the trees at the southwest corner on NW 58 Street.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 77.





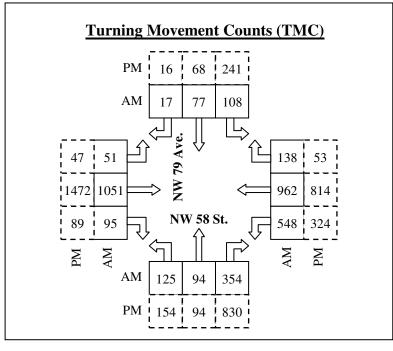


Figure 75: Traffic Data – NW 79 Avenue and NW 58 Street





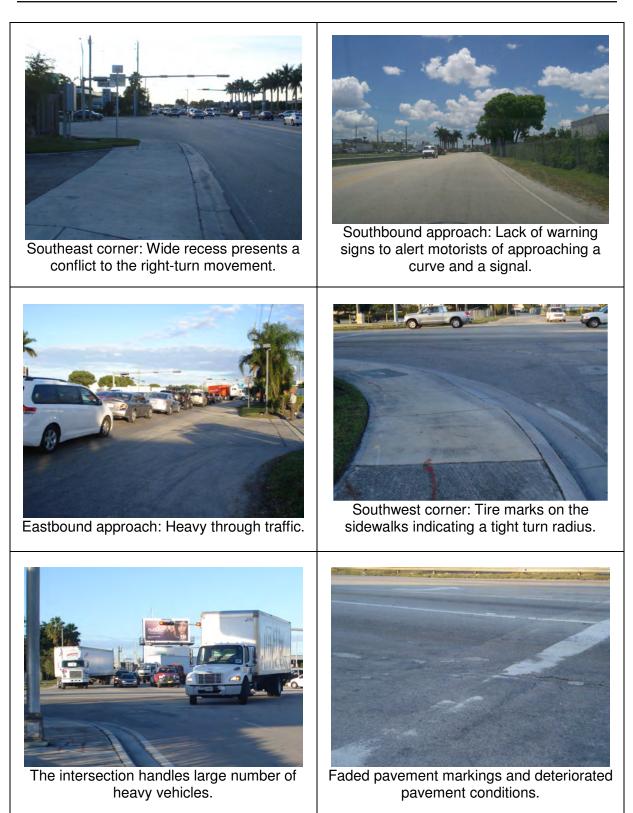


Figure 76: Field Review – NW 79 Avenue and NW 58 Street



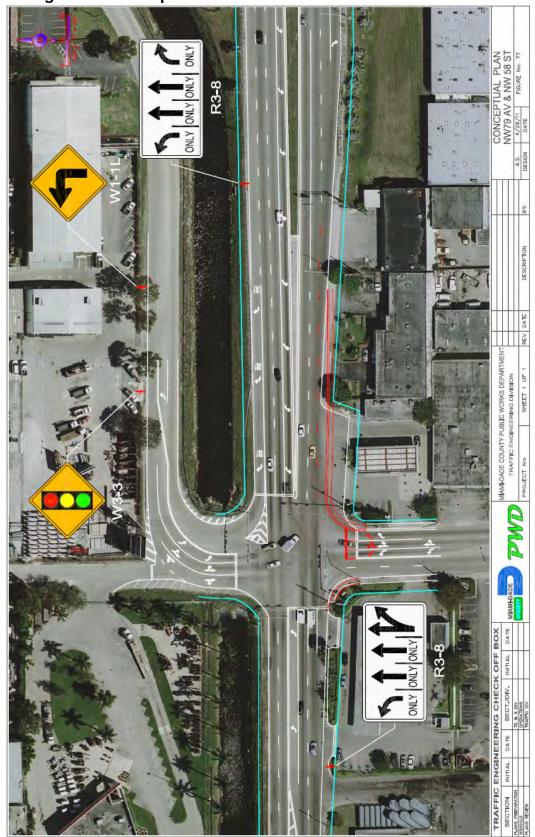


Figure 77: Conceptual Plan – NW 79 Avenue and NW 58 Street



### 3.20. NW 107 Avenue and NW 41 Street

#### 3.20.1. Site Description

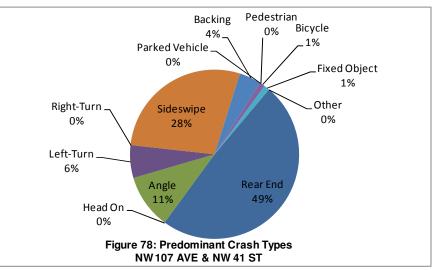
This intersection is a signalized four legged intersection located in the southwest part of Miami Dade County in the City of Doral. NW 107 Avenue is a four lane urban arterial divided by a raised median that runs north-south, and NW 41 Street is a six lane urban arterial divided by a raised median that runs east-west.

### 3.20.2. Safety Conditions and Analysis

The intersection of NW 107 Avenue and NW 41 Street is ranked number 20 in our high crash locations list. A review of the hard copy police reports for the years 2006 through 2008 was performed. During the three-year analysis period, 96 relevant crashes occurred at the intersection. The analysis indicated that the average number of crashes per year is 32. The crash summaries, crash statistics and collision diagrams for the intersection are documented in *Appendix A*.

Based on the analysis of crash records for this intersection, the predominant types of crashes are shown in *Figure 78*.

Calculated intersection mean crash per year were compared to the average Miami-Dade Crash Rate for County corridors to assess the safety conditions at the



study intersection in relation to other roadways with similar traffic and geometric characteristics. This study is based on the 2007 FDOT's "Expected Value Analysis." *Table 45* illustrates the expected accident volume analysis of this intersection as well as the safety ratios and the confidence levels during the analysis period.

Based on a regression growth of 2% from the 2006 entering volume, the calculated safety ratios for the years 2006, 2007, and 2008 were 1.090, 1.165, and 1.336, respectively. The safety ratio for the three years averaged 1.197. Also, results of confidence level indicated that this intersection has been a high crash location during the three years with a confidence level higher than 99.95%.

From this analysis, it was determined that sideswipe and backing collisions presented abnormal crash patterns that exceed the threshold limits for the 95th percentile and 90th percentile confidence level. Those results indicate that these types of collisions were abnormally high during the period of 2006 through 2008. A detailed review of the abnormal crashes as well as probable countermeasures is presented in *Table 46*.



|                         | (6  | Lane x 4                    | Lane. Si   |            |              |                                 | eg Intersecti                 |              | able35) - URI  | BAN Spot                        |         |                              |          |
|-------------------------|---|-----------------------------|------------|------------|--------------|---------------------------------|-------------------------------|--------------|--|---------------------------------|---------|------------------------------|----------|
|                         | (-  |                             | R OF CF    |            | 3 YEAR       | %                               | MEAN                          |              |  | RASH VALUE                      | ABNORM  |                              | CRASHES  |
|                         | TYPE OF CRASH                                 |                             | YEAR       |            | TOTAL        | of                              | Accidents                     | MEAN         | 90th   | 95th                            | Mean    | 90th                         | 95th     |
| COLLISION TYPE          | Rear End                                      | 2006<br>13                  | 2007<br>15 | 2008<br>19 | CRASHE<br>47 | Total<br>24%                    | per Year<br>15.67             | 8.68         | Percentile<br>17.26  | Percentile<br>18.90             | х       | Percentil                    | Percenti |
|                         | Head On                                       | 0                           | 0          | 0          | 0            | 0%                              | 0.00                          | 0.60         | 1.64   | 1.84                            |         |                              |          |
|                         | Angle   | 2                           | 2          | 6          | 10           | 4%                              | 3.33                          | 5.40         | 9.19   | 9.92                            |         |                              |          |
|                         | Left Turn                                     | 2                           | 2          | 2          | 6            | 3%                              | 2.00                          | 3.00         | 6.13   | 6.73                            |         |                              |          |
|                         | Right Turn                                    | 0                           | 0<br>10    | 0          | 0<br>27      | 0%                              | 0.00<br>9.00                  | 0.46         | 1.36   | 1.53                            | v       |                              | x        |
|                         | Sideswipe<br>Backed Into                      | 12<br>0                     | 2          | 5          | 4            | 9%<br>1%                        | 9.00                          | 2.58<br>0.28 | 4.92<br>0.84   | 5.37<br>0.94                    | X       | X                            | Ŷ        |
|                         | Coll. w/ Parked Car                           | 0                           | 0          | 0          | 0            | 0%                              | 0.00                          | 0.12         | 0.57   | 0.65                            | ~       | ~                            | ^        |
|                         | Coll. w/ Pedestrian                           | 0                           | 0          | 0          | 0            | 0%                              | 0.00                          | 0.74         | 1.80   | 2.00                            |         |                              |          |
|                         | Coll. w/ Bicycle                              | 0                           | 0          | 1          | 1            | 0%                              | 0.33                          | 0.14         | 0.49   | 0.55                            | Х       |                              |          |
|                         | Fixed Object                                  | 0                           | 0          | 1          | 1            | 0%                              | 0.33                          | 0.79         | 2.01   | 2.24                            |         |                              |          |
|                         | Ran Off Road                                  | 0                           | 0          | 0          | 0            | 0%                              | 0.00                          | 0.01         | 0.11   | 0.13                            |         |                              |          |
|                         | Overtuned<br>Other                            | 0                           | 0          | 0          | 0            | 0%<br>0%                        | 0.00                          | 0.04 8.67    | 0.28 21.05   | 0.33 23.42                      |         |                              |          |
|                         | Total Crashes                                 | 29                          | 31         | 36         | 96           | 23%                             | 32.00                         | 31.51        | 54.94  | 59.43                           | х       |                              |          |
| SEVERITY                | PDO crashes                                   | 28                          | 30         | 35         | 93           | 97%                             | 31.00                         | 19.21        | 36.95  | 40.35                           | x       |                              |          |
|                         | Fatal crashes                                 | 0                           | 0          | 0          | 0            | 0%                              | 0.00                          | 0.16         | 0.56   | 0.63                            |         |                              |          |
|                         | Injury crashes                                | 1                           | 1          | 1          | 3            | 3%                              | 1.00                          | 20.77        | 38.34  | 41.71                           |         |                              |          |
| LIGHT CONDITIONS        | Day Light                                     | 25                          | 27         | 26         | 78           | 81%                             | 26.00                         | 19.89        | 35.12  | 38.03                           | Х       |                              |          |
|                         | Dusk<br>Dawn                                  | 0                           | 0          | 1          | 1 4          | 1%<br>4%                        | 0.33                          | 0.61 0.38    | 1.43   | 1.58<br>1.16                    | x       | x                            | x        |
|                         | Dawn<br>Dark                                  | 4                           | 1          | 3<br>6     | 4            | 4%<br>14%                       | 4.33                          | 10.22        | 18.94  | 20.61                           | ^       | ^                            | <u> </u> |
|                         | Unknown                                       | 0                           | 0          | 0          | 0            | 0%                              | 0.00                          | 0.41         | 1.15   | 1.30                            |         |                              |          |
| SURFACE CONDITIONS      | Dry   | 23                          | 28         | 31         | 82           | 85%                             | 27.33                         | 26.41        | 45.71  | 49.41                           | х       |                              |          |
|                         | Wet   | 1                           | 3          | 5          | 9            | 9%                              | 3.00                          | 4.41         | 8.78   | 9.62                            |         | L                            |          |
|                         | Others  | 5                           | 0          | 0          | 5            | 5%                              | 1.67                          | 0.69         | 1.88   | 2.11                            | Х       |                              |          |
| MONTH OF A YEAR         | January                                       | 4                           | 4          | 3          | 11           | 11%                             | 3.67                          | 2.57         | 5.04   | 5.52                            | Х       |                              |          |
|                         | February<br>March                             | 2                           | 2          | 3          | 7            | 7%<br>13%                       | 2.33<br>4.00                  | 2.37<br>3.09 | 4.59   | 5.02                            | x       |                              |          |
|                         | April   | 4                           | 5          | 3          | 12           | 13%                             | 4.00                          | 2.57         | 5.92<br>5.30   | 6.46<br>5.82                    | x       |                              |          |
|                         | May   | 1                           | 5          | 4          | 10           | 10%                             | 3.33                          | 2.51.        | 4.81   | 5.25                            | ~       |                              |          |
|                         | June  | 1                           | 3          | 3          | 7            | 7%                              | 2.33                          | 2.81         | 5.74   | 6.30                            |         |                              |          |
|                         | July  | 5                           | 2          | 3          | 10           | 10%                             | 3.33                          | 2.60         | 4.96   | 5.42                            | Х       |                              |          |
|                         | August  | 1                           | 0          | 3          | 4            | 4%                              | 1.33                          | 3.00         | 5.66   | 6.17                            |         |                              |          |
|                         | September                                     | 2                           | 1          | 1          | 4            | 4%                              | 1.33                          | 2.48         | 4.92   | 5.39                            |         |                              |          |
|                         | October                                       | 3                           | 2          | 3          | 8            | 8%<br>6%                        | 2.67                          | 2.89         | 5.40   | 5.88                            |         |                              |          |
|                         | November<br>December                          | 1                           | 4          | 1 2        | 6<br>5       | 5%                              | 2.00<br>1.67                  | 2.41<br>2.22 | 4.85<br>4.55   | 5.32<br>5.00                    |         |                              |          |
| DAY OF THE WEEK         | Sunday  | 0                           | 3          | 5          | 8            | 8%                              | 2.67                          | 4.00         | 6.58   | 7.08                            |         |                              |          |
| -                       | Monday  | 2                           | 5          | 6          | 13           | 14%                             | 4.33                          | 4.62         | 9.23   | 10.11                           |         |                              |          |
|                         | Tuesday                                       | 8                           | 5          | 7          | 20           | 21%                             | 6.67                          | 4.46         | 7.81   | 8.46                            | Х       |                              |          |
|                         | Wednesday                                     | 3                           | 2          | 5          | 10           | 10%                             | 3.33                          | 4.56         | 8.62   | 9.40                            |         |                              |          |
|                         | Thursday                                      | 10                          | 8          | 2          | 20           | 21%                             | 6.67                          | 5.04         | 9.04   | 9.80                            | X       |                              |          |
|                         | Friday<br>Saturday                            | 5                           | 6<br>2     | 9<br>2     | 20<br>5      | 21%<br>5%                       | 6.67<br>1.67                  | 4.86<br>3.98 | 9.39<br>8.10   | 10.26<br>8.89                   | Х       |                              |          |
| HOUR OF THE DAY         | 00:00-06:00                                   | 1                           | 0          | 3          | 4            | 4%                              | 1.33                          | 3.79         | 8.65   | 9.58                            |         |                              |          |
|                         | 06:00-09:00                                   | 2                           | 4          | 4          | 10           | 10%                             | 3.33                          | 3.44         | 6.94   | 7.61                            |         |                              |          |
|                         | 09:00-11:00                                   | 3                           | 3          | 1          | 7            | 7%                              | 2.33                          | 2.58         | 5.30   | 5.82                            |         |                              |          |
|                         | 11:00-13:00                                   | 5                           | 8          | 3          | 16           | 17%                             | 5.33                          | 3.12         | 5.78   | 6.29                            | Х       |                              |          |
|                         | 13:00-15:00                                   | 6                           | 5          | 12         | 23           | 24%                             | 7.67                          | 3.57         | 6.32   | 6.85                            | X       | Х                            | Х        |
|                         | 15:00-18:00                                   | 7                           | 8          | 6          | 21           | 22%                             | 7.00                          | 6.38         | 11.52  | 12.50                           | X       |                              |          |
|                         | 18:00-24:00                                   | 5                           | 3          | 7          | 15           | 16%                             | 5.00                          | 8.60         | 15.51  | 16.83                           |         |                              |          |
|                         |   |                             |            |            |              | YEAR                            |                               | 3-Year       | 1  |                                 |         |                              |          |
|                         |   |                             |            |            | 1            | 2                               | 3                             | Average      |  |                                 |         |                              |          |
|                         | DT (Vabi-las -                                | ) and                       |            |            |              |                                 |                               | -            | -  |                                 |         |                              |          |
| Average Daily Traffic A |   |                             |            |            | 65,538       | 66,875                          | 68,240                        | 66,884       | 4  |                                 |         |                              |          |
| Iorida Average Crash    | rate (Crashes per                             | Million En                  | tering Ve  | hicles)    | 0.579        | 0.568                           | 0.566                         | 0.571        |  |                                 |         |                              |          |
| Traffic Base            |   |                             |            |            | 23.921       | 24.409                          | 24.908                        | 24.413       | 1  |                                 |         |                              |          |
| Actual Crash Rate (Cr   | rashes ner Million F                          | nterina V                   | ehicles)   |            | 1.212        | 1.270                           | 1.445                         | 1.309        | 1  |                                 |         |                              |          |
|                         |   | -                           | ,          |            |              |                                 |                               |              | -  |                                 |         |                              |          |
| Critical Crash Rate (C  | rashes per Million E                          | ntering V                   | enicles)   |            | 1.112        | 1.090                           | 1.082                         | 1.095        | 4  |                                 |         |                              |          |
| Safety Ratio            |   |                             |            |            | 1.090        | 1.165                           | 1.336                         | 1.197        |  |                                 |         |                              |          |
| High Crash Location     | ??  |                             |            |            | YES          | YES                             | YES                           | YES          |  |                                 |         |                              |          |
| •                       | $Rate = \frac{A \times 1,00}{V}$              | 0,000                       |            |            |              | f crashes                       | or number of                  |              | r type occurri   | ng in a 1 year                  | period. |                              |          |
| CriticalCrashRa         | TB = Tr<br>TF = Te                            | affic Base<br>est Factor (z | z-value)   |            | ·            | Confidence Level (%) Constant Z |                               |              |  |                                 |         |                              |          |
|                         | $\frac{Years \times ADT \times 3}{1,000,000}$ |                             |            | = 1.       | 96 (assume   | e 95% Cor                       | nfidence Leve<br>Confidence L |              | 68.30 1.00<br>86.60 1.50<br>90.00 1.64<br>95.00 1.96<br>95.50 2.00<br>08.00 2.50 |                                 |         |                              |          |
| Safety Ratio            | $= \frac{Actual Crash}{Critical Crash}$       | h Rate<br>h Rate            | -          |            |              |                                 |                               |              |  | 98.80<br>99.00<br>99.70<br>99.9 | )       | 2.50<br>2.58<br>3.00<br>3.29 |          |

# Table 45 – Crash Analysis – NW 107 Avenue and NW 41 Street



# Table 46 – Abnormal Crash Details & Countermeasures NW 107 Avenue and NW 41 Street

| NW 107 Avenue & NW 41 street  |                     |                |       |         |       |        |            |                  |          |            |  |  |  |  |
|---|---------------------|----------------|-------|---------|-------|--------|------------|------------------|----------|------------|--|--|--|--|
| (6 Lane x 4 Lane, Signalized, With Turn Lanes, 4 Leg Intersection -Table 35) - URBAN Spot |                     |                |       |         |       |        |            |                  |          |            |  |  |  |  |
|   |                     |                |       |         |       |        |            |                  |          |            |  |  |  |  |
|   |                     |                |       |         |       |        |            |                  |          |            |  |  |  |  |
|   |                     |                | NUMBE | R OF CF | ASHES | 3 YEAR | %          | MEAN             | Possible | Counter-   |  |  |  |  |
|   |                     |                |       | YEAR    |       | TOTAL  | of         | Accidents        | Cause(s) | measure(s) |  |  |  |  |
|   | Table Office        | 0              | 2006  | 2007    | 2008  | CRASHE | Total      | per Year         | .,       |            |  |  |  |  |
|   | Total Sideswi       | 12             | 10    | 5       | 27    | 100%   | 9.00       | (16)             | 20       |            |  |  |  |  |
|   | Linkting Conditions | Day Light      | 11    | 10      | 4     | 25     | 93%        | 8.33             | (17)     | 21         |  |  |  |  |
|   | Lighting Conditions | Dawn           | 0     | 0       | 0     | 0      | 0%         | 0.00             | (19)     | 22         |  |  |  |  |
|   |                     | Dark           | 1     | 0       | 1     | 2      | 7%<br>0%   | 0.67             | (20)     |            |  |  |  |  |
|   |                     | 00:00 - 06:00  |       | -       |       | ÷      | 0.70       | 0.00             |          |            |  |  |  |  |
|   |                     | 06:00 - 09:00  | 1     | 2       | 1     | 4      | 15%        | 1.33             |          |            |  |  |  |  |
| O i de avuire e   | Lieure of Devi      | 09:00 - 11:00  | 1     | 0       | 0     | 1      | 4%         | 0.33             |          |            |  |  |  |  |
| Sideswipe   | Hours of Day        | 11:00 - 13:00  | 3     | 2       | 1     | 6      | 22%        | 2.00             |          |            |  |  |  |  |
| (Overtake)  |                     | 13:00 - 15:00  | 1     | 2       | 2     | 5      | 19%        | 1.67             |          |            |  |  |  |  |
|   |                     | 15:00 - 18:00  | 3     | 4       | 0     | 7      | 26%        | 2.33             |          |            |  |  |  |  |
|   |                     | 18:00 - 24:00  | 3     | 0       | 1     | 4      | 15%        | 1.33             |          |            |  |  |  |  |
|   |                     | North          | 2     | 3       | 2     | 7      | 26%        | 2.33             |          |            |  |  |  |  |
|   |                     | South          | 2     | 2       | 1     | 5      | 19%        | 1.67             |          |            |  |  |  |  |
|   | Direction           | East           | 3     | 3       | 0     | 6      | 22%        | 2.00             |          |            |  |  |  |  |
|   |                     | West           | 5     | 2       | 2     | 9      | 33%        | 3.00             |          |            |  |  |  |  |
|   |                     | Unknown        | 0     | 0       | 0     | 0      | 0%         | 0.00             |          |            |  |  |  |  |
|   |                     |                |       |         |       |        |            |                  |          |            |  |  |  |  |
|   |                     |                | NUMBE | R OF CF | ACHES | 3 YEAR | %          | MEAN             |          |            |  |  |  |  |
|   |                     |                | NOWDE | YEAR    | ASHES | TOTAL  | of         | Accidents        | Possible | Counter-   |  |  |  |  |
|   |                     |                | 2006  | 2007    | 2008  | CRASHE | Total      |                  | Cause(s) | measure(s) |  |  |  |  |
|   | Total Backed        | nto Crashes    | 0     | 2007    | 2000  | 4      | 100%       | per Year<br>1.33 | (4)      | 6          |  |  |  |  |
|   | Total Babilou       | Day Light      | 0     | 1       | 2     | 3      | 75%        | 1.00             | (8)      | 21         |  |  |  |  |
|   | Lighting Conditions | Dawn           | 0     | 0       | 0     | 0      | 0%         | 0.00             | (19)     | 22         |  |  |  |  |
|   |                     | Dark           | 0     | 1       | 0     | 1      | 25%        | 0.33             | (10)     |            |  |  |  |  |
|   |                     | 00:00 - 06:00  | 0     | 1       | 0     | 1      | 25%        | 0.33             |          |            |  |  |  |  |
|   |                     | 06:00 - 09:00  | 0     | 0       | 1     | 1      | 25%        | 0.33             |          |            |  |  |  |  |
|   |                     | 09:00 - 11:00  | 0     | 0       | 0     | 0      | 0%         | 0.00             |          |            |  |  |  |  |
|   | Hours of Day        | 11:00 - 13:00  | 0     | 0       | 1     | 1      | 25%        | 0.33             |          |            |  |  |  |  |
| Backed into   | line of Edy         | 13:00 - 15:00  | 0     | 0       | 0     | 0      | 0%         | 0.00             |          |            |  |  |  |  |
|   |                     | 15:00 - 18:00  | 0     | 1       | 0     | 1      | 25%        | 0.33             |          |            |  |  |  |  |
|   |                     | 18:00 - 24:00  | 0     | 0       | 0     | 0      | 0%         | 0.00             |          |            |  |  |  |  |
|   |                     | 10.00 27.00    | -     |         |       | -      | 25%        | 0.33             |          |            |  |  |  |  |
|   | -                   | North          | 0     | 1       | 0     | 1 1    |            |                  |          |            |  |  |  |  |
|   |                     | North<br>South | 0     | 1       | 0     | 1      |            |                  |          |            |  |  |  |  |
|   | Direction           | South          | 0     | 1       | 1     | 2      | 50%        | 0.67             |          |            |  |  |  |  |
|   | Direction           | South<br>East  | 0     | 1<br>0  | 1     | 2<br>1 | 50%<br>25% | 0.67<br>0.33     |          |            |  |  |  |  |
|   | Direction           | South          | 0     | 1       | 1     | 2      | 50%        | 0.67             |          |            |  |  |  |  |

## 3.20.3. Traffic Operation Conditions and Analysis

In order to identify the traffic operation characteristics and safety relevant conflicts, field observations at NW 107 Avenue and NW 41 Street were performed on a typical weekday on November 22, 2010. A summary of the traffic data is presented in *Figure 79*, and the field review is presented in *Figure 80*.

This intersection has double left-turn bays for all approaches, except the eastbound which has a single left-turn lane. The northbound approach has an exclusive right-turn lane. The signal operation is split phases for northbound and southbound traffic, protected for eastbound left-turns and protected/permissive for westbound left-turns.

Long queues were observed for southbound, eastbound and westbound left-turns with vehicles spilling back and blocking the through lanes. Also the eastbound left-turn movement struggles to cross the opposing westbound through movement.



Vehicles in/out of the median opening in the north leg present a conflict to the north/south through movements.

It was also observed that pedestrians find difficulty crossing NW 41 Street which has crosswalks only on the east leg of the intersection.

Northbound/southbound approaches are not properly aligned and receiving lanes are shifted to the left. Also, the northbound/southbound handles heavy traffic that affects the capacity.

Capacity analysis was conducted for AM and PM traffic peak hours to evaluate existing conditions as well as improvements. *Table 47* depicts the analysis performed using Synchro 6.0. An assessment of Level of Services (LOS) analysis for peak periods indicated that this intersection is operating at a failing LOS E during both of the AM and PM peaks. In addition, these analyses indicated that the northbound and southbound movements are operating under substantial delay that generates failing conditions (LOS E & F) during the AM and PM peak hours. Also, the analyses concluded that in addition to northbound, the eastbound is under failing condition (LOS E) during the AM peak.

The results of the improvement and signal retiming/optimization yielded benefits for both AM and PM periods. This was achieved by adding lanes and changing lane assignment of the northbound and southbound approaches. Also, changing the current half quad north/south split phase to a full quad, and optimizing the signal while maintaining cycle length for both the AM and PM peak hours. As such, the overall LOS improved to D during AM and PM, and the overall and the approaches delays were improved.

|      |        |       | EB  |     |    | WB  |     |    |     | N   | IB  |     | SB  |    |     |     | Overall |
|------|--------|-------|-----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|---------|
|      |        | L     | TR  | Арр | L  | TR  | Арр | L  | Т   | R   | Арр | L   | Т   | R  | Арр |     |         |
|      | Eviat  | LOS   | В   | D   | D  | F   | С   | D  | Е   | F   | Е   | F   | F   | F  |     | F   | E       |
| АМ   | Exist. | Delay | 16  | 46  | 44 | 110 | 23  | 50 | 75  | 112 | 80  | 94  | 144 | 13 | 35  | 138 | 72      |
| Alvi | Modif. | LOS   | В   | D   | D  | F   | С   | D  | Е   | Е   | D   | Е   | F   | Е  | В   | Е   | D       |
|      |        | Delay | 17  | 49  | 47 | 88  | 21  | 42 | 70  | 66  | 39  | 56  | 88  | 73 | 12  | 72  | 52      |
|      | Exist. | LOS   | F   | D   | Е  | Е   | D   | D  | F   | F   | С   | F   | D   | E  | Ξ   | Е   | E       |
| РМ   |        | Delay | 130 | 38  | 57 | 72  | 45  | 50 | 130 | 122 | 27  | 103 | 54  | 6  | 0   | 58  | 67      |
|      | Modif. | LOS   | D   | С   | D  | Е   | D   | D  | Е   | D   | В   | D   | Е   | Е  | А   | D   | D       |
|      |        | Delay | 47  | 35  | 37 | 64  | 47  | 50 | 56  | 47  | 15  | 43  | 68  | 59 | 8   | 52  | 46      |

## Table 47 – Capacity Analysis – NW 107 Avenue and NW 41 Street



### 3.20.4. Recommendations

Based on the safety analysis, field observations and traffic operations for the intersection of NW 107 Avenue and NW 41 Street, the following is recommended:

- Changing the lane configuration of the southbound approach by adding two lanes to become L, L, T, T & R instead of L, LT & TR. *This improvement will require additional right-of-way*.
- Changing the lane configuration of the northbound approach to become L, L, T, T & R instead of L, LT, T & R.
- Changing the current half quad north/south split phase to a full quad, and optimizing the signal while maintaining cycle length for both the AM and PM peak hours.
- Lengthen the eastbound left-turn lane to approximately 400 ft.
- Lengthen the westbound outside left-turn lane to approximately 500 ft.
- Lengthen the proposed southbound left-turn lanes to approximately 350 ft. each.
- Closing of the median opening in front of CVS driveway on the north leg.
- Adding more green time to pedestrians crossing NW 41 Street.
- Provide crosswalks and ADA approved pedestrian ramps on the west leg to cross NW 41 Street.
- Install 40 mph speed limit signs (R2-1) in all receiving directions.
- Pavement milling and resurfacing.
- Refurbishing of pavement marking and channelization guidelines.

A conceptual vision of the proposed roadway improvements is exhibited in Figure 81.





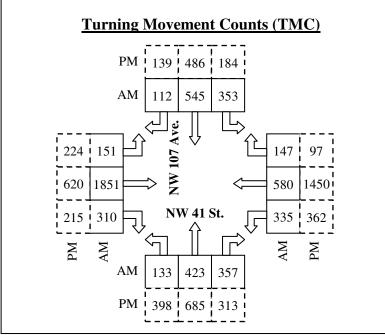


Figure 79: Traffic Data – NW 107 Avenue and NW 41 Street





Southbound approach: Heavy traffic exceeds the capacity.



North/South: Road is not properly aligned with an offset to the left.



Eastbound approach: Offset and trucks make it difficult for left-turn vehicles to cross the opposite traffic.



Eastbound approach: Red light running.

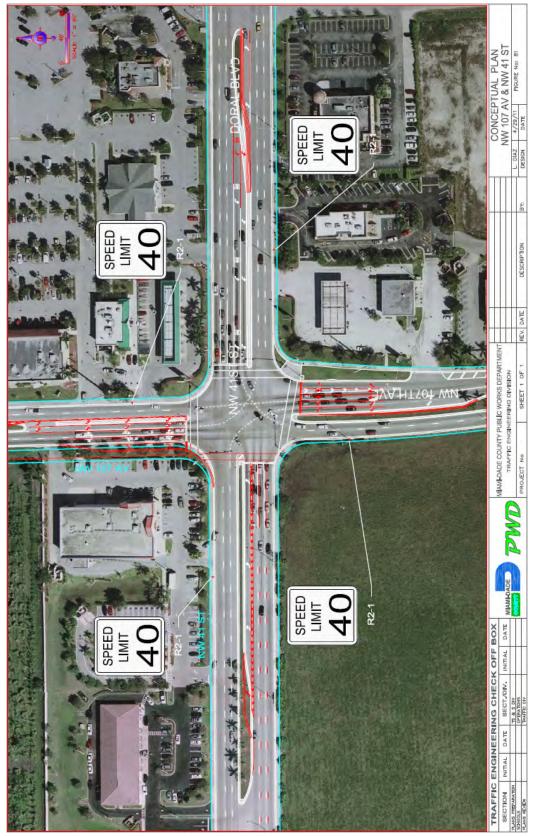


East leg: Pedestrians find it difficult to cross long crosswalk with insufficient time.

Westbound approach: Tire skid marks.

Figure 80: Field Review – NW 107 Avenue and NW 41 Street





## Figure 81: Conceptual Plan – NW 107 Avenue and NW 41 Street

Safety Studies at High Crash Locations Countywide