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FY 2016



Hon. Alejandro Garcia Padilla
Governor of Puerto Rico



PUERTO RICO
TRAFFIC SAFETY COMMISSION
COMMONWEALTH OF PUERTO RICO

Eng. Miguel A. Torres Diaz
Chairman of the Board

Mr. Jose A. Delgado Ortiz
Executive Director

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INTRODUCTION

Puerto Rico is the smallest and the easternmost island of the Greater Antilles in the Caribbean, consisting of the main island of Puerto Rico and several smaller islands including Vieques and Culebra. The mainland measures 100 miles long and 35 miles wide (170km by 60km).

There are about 3.7 million citizens distributed over 78 municipalities, this is 1,000 people per square mile, a ratio higher than within any of the 50 states in the United States; it also ranks among the world's highest. The great majority of the population lives in the metropolitan area of San Juan, Caguas, Ponce and Mayagüez and are also highly populated municipalities. In addition, of the total population, approximately 85% are 64 years old and younger showing that Puerto Rico's population is relatively young with tendencies to live an active social life.

Puerto Rico's climate is tropical with an average year round temperature of 82°F. Average annual precipitation is 70 inches with less than 40 inches on the southern coastal plain to greater than 130 inches in the mountains and the north east coast. This precipitation has proven to be a problem to the driving public since roads get flooded very easily. Hurricane season runs from June to November and also has contributed to serious damages in state and municipal roads.

There are 16,694 roadway miles in Puerto Rico and in 2011 there were 3,619,499 licensed drivers and 3,084,543 registered vehicles.

ALCOHOL

Impaired Driving - Fatalities

According to the NHTSA Fatality Analysis Reporting System, FARS, in 2013, 127 alcohol impaired driving fatalities occurred. This indicates a 24% increase from 2011 to 2013. Impaired driving fatalities represent 37% of total traffic fatalities for 2013.

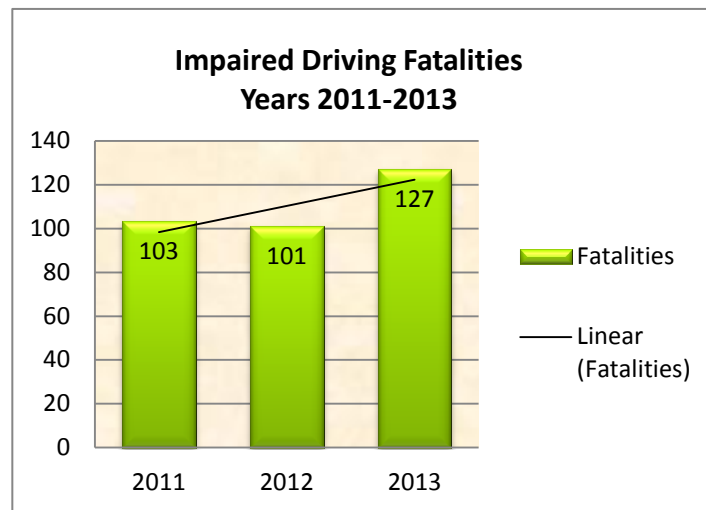


Figure 1: Impaired Driving Fatalities Year 2011-2013

Gender data analysis for impaired driving fatalities for this three-year period reflects an average of 93% of male fatalities and 7% female fatalities.

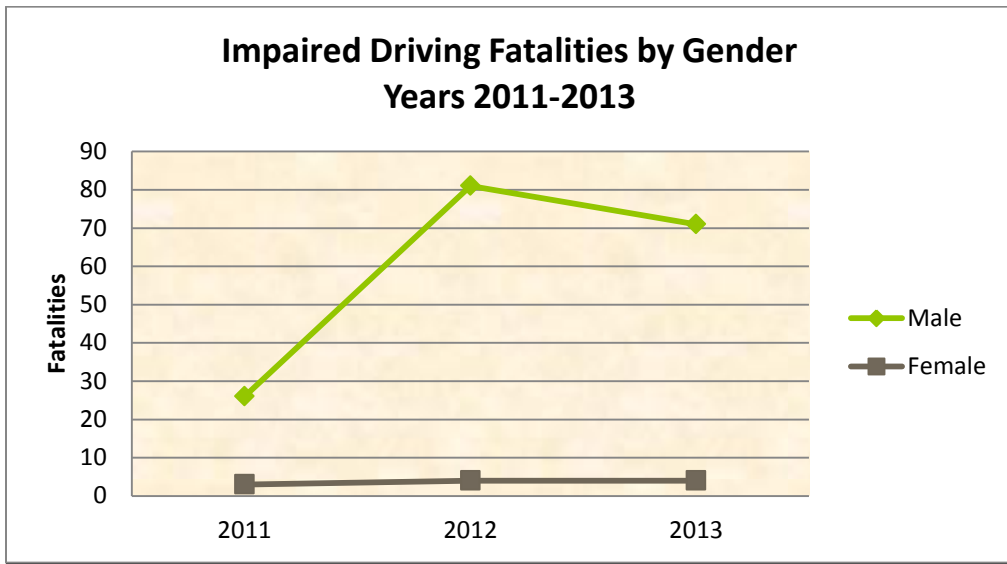


Figure 2: Impaired Driving Fatalities By Gender Years 2011-2013

Analysis by age group shows that 51% of impaired driving fatalities were in the 25-49 years age group followed by 15-24 age group with 21%.

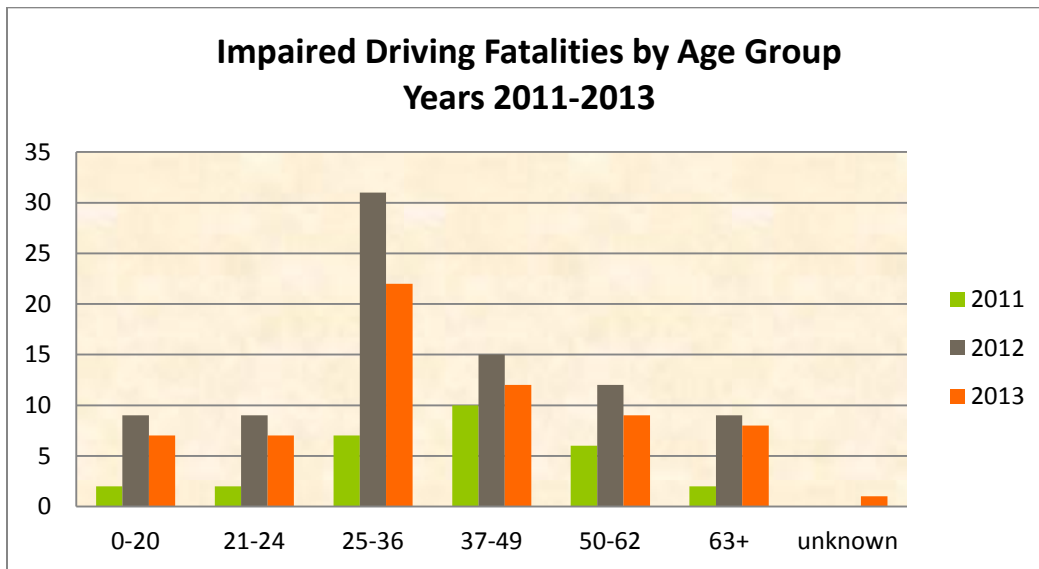


Figure 3: Impaired Driving Fatalities by Age Group Years 2011-2013

The following graph shows that 34% of alcohol impaired driving fatalities occurred during 6:00pm- 11:59pm followed by 12:00mn- 5:59am with 32%. Nighttime is still the riskiest period for drunk drivers and their possible victims.

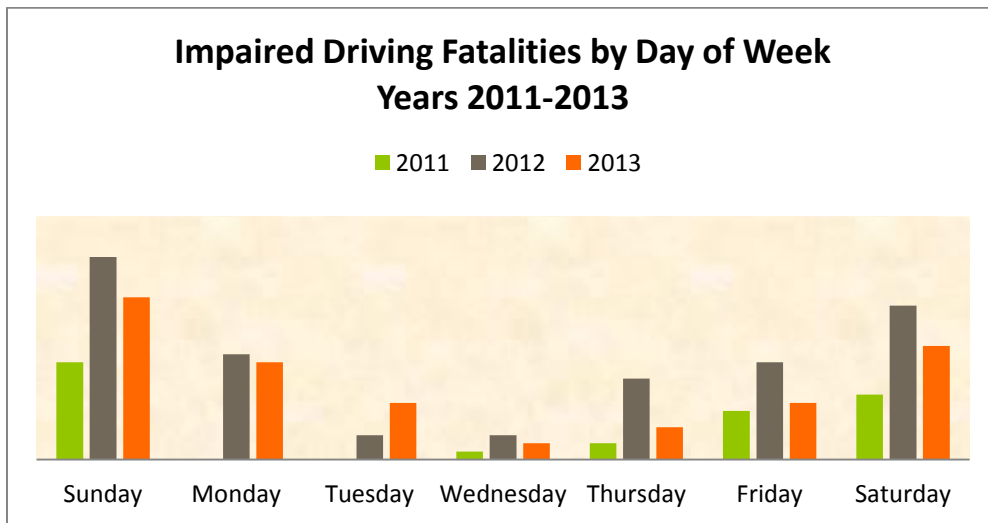
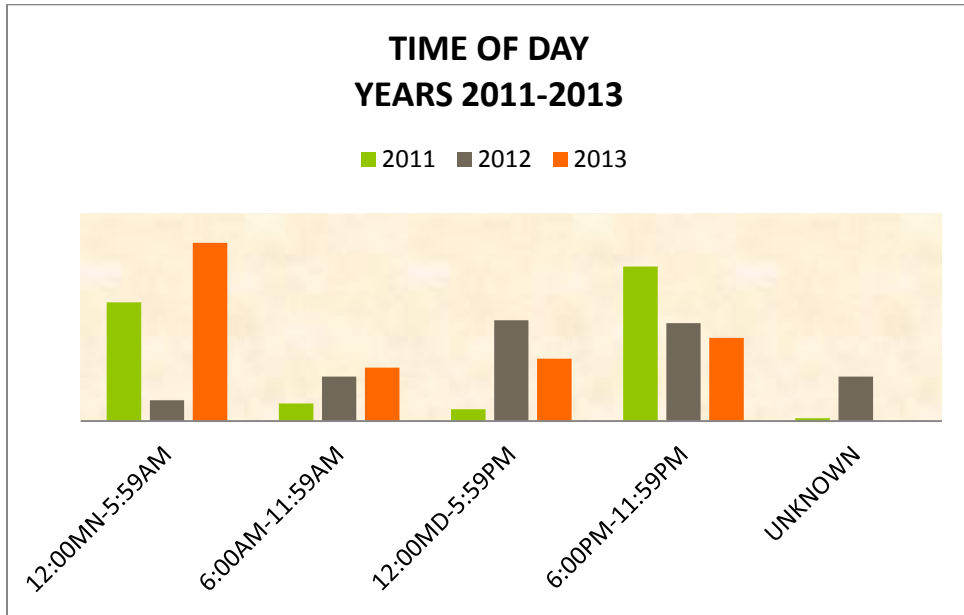


Figure 4: Impaired Driving fatalities By Day of Week Years 2011-2013

When analyzing data of impaired driving fatalities by day of the week, it shows that Sunday reported the highest average of fatalities for the 3-year period with 30%, followed by Saturday 23% and Monday 15% this demonstrates that alcohol and weekends are a lethal combination.

RANKING	MUNICIPALITY
1	San Juan
2	Río Grande
3	Caguas
4	Aguadilla
5	Juana Díaz
6	Cayey

Figure 5: Top Six Impaired Driving Fatalities by Municipality Years 2011-2013

Data shows that almost all municipalities have dealt with fatalities related to alcohol impaired driving. However, when analyzing alcohol impaired driving fatalities by municipality during the three-year period of 2011-2013, San Juan and Caguas in the metropolitan area, Río Grande in the northeast, Cayey in the center, Juana Díaz in the south, and Aguadilla in the northwest of the island, are among the top six. Most impaired driving fatalities have occurred on primary roads.

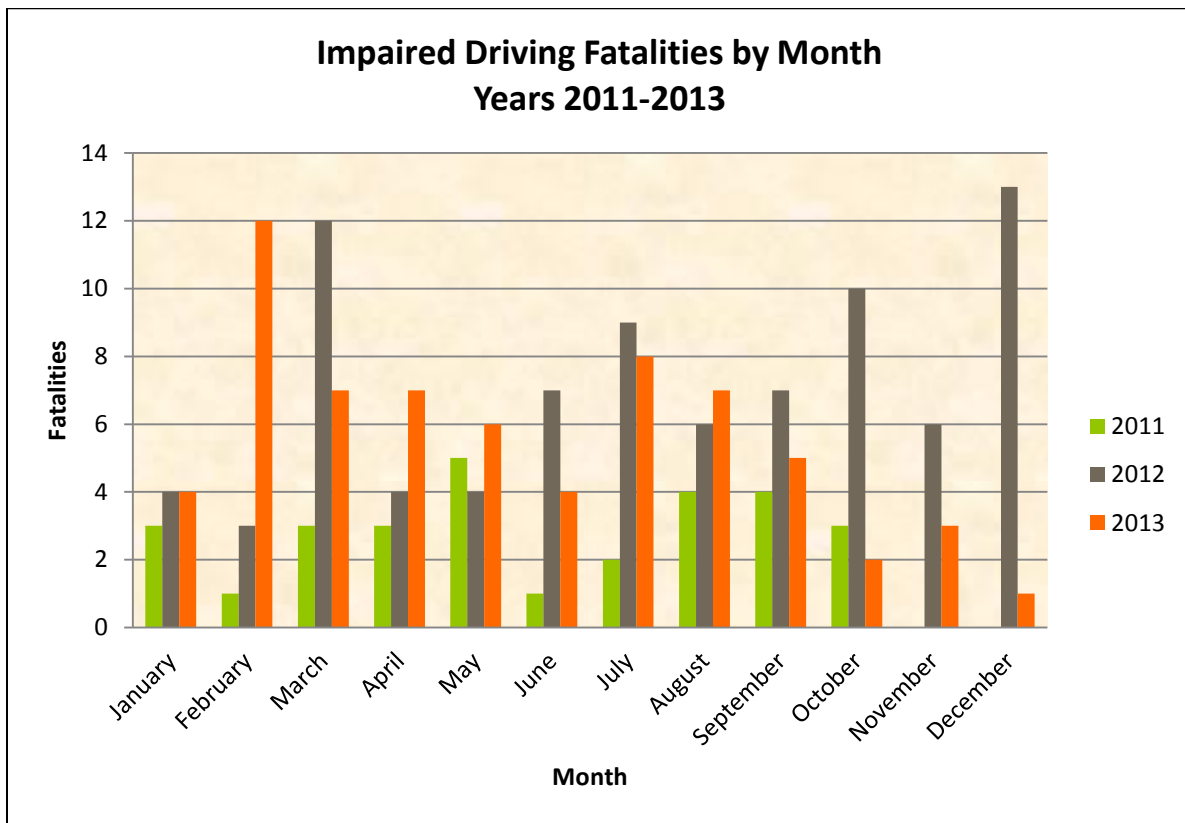


Figure 6: Impaired Driving Fatalities by Month Years 2011-2013

When analyzing alcohol impaired driving fatalities by month for this three-year period, similar numbers are observed for every month. However, March, July and September. Summer months accounted for 29% of total impaired driving fatalities.

Other important information regarding alcohol impaired driving:

- Most impaired driving fatalities have occurred on primary roads.
- 72% of all alcohol impaired drivers killed were unrestrained.
- 62% of alcohol impaired motorcycle riders killed were un-helmeted.
- 66% alcohol impaired driving fatalities also presented a speeding factor.

Youth Alcohol

Youth Impaired Driving - Fatalities

Youth alcohol-impaired driving continues to be a serious matter. Although the 15-24 years age group isn't the highest in fatalities, young age, risky behaviors, and peer pressure place this age group in a hazardous position.

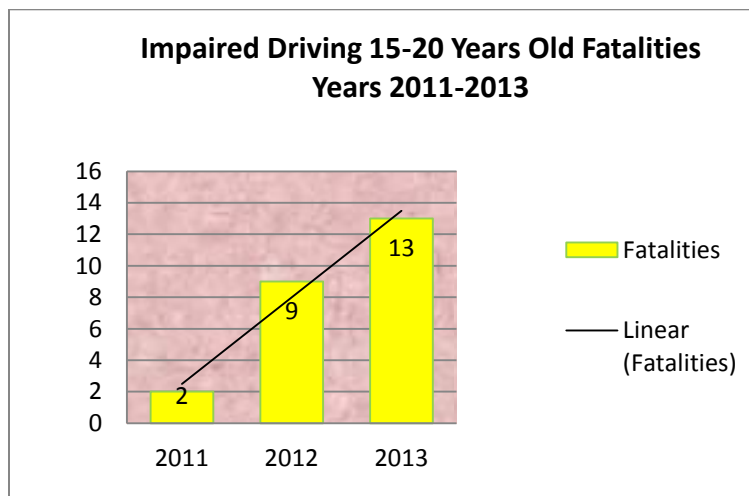


Figure 7: Impaired driving 15-20 Years Old Fatalities Years 2011-2013

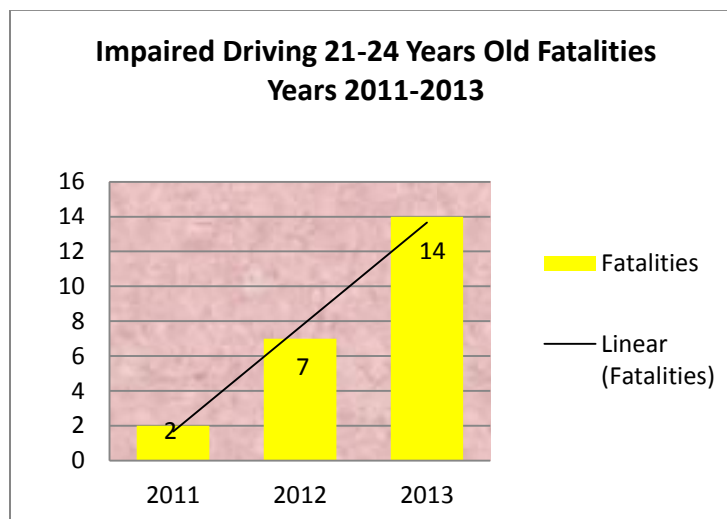


Figure 8: Impaired Driving 21-24 Years Old Fatalities Years 2011-2013

Analysis regarding alcohol impaired driving by age group shows that, for the three-year period 2011-2013, 51% of youth impaired driving are in the age group 15-20 and 49% in age group 21- 24. Together, both groups (15-24 years old) rank third, accounting for 21% of total impaired driving fatalities for 2013.

Gender data analysis for youth impaired driving fatalities for the 2011-2013 period, reflects that 91% are male fatalities and 9% female fatalities.

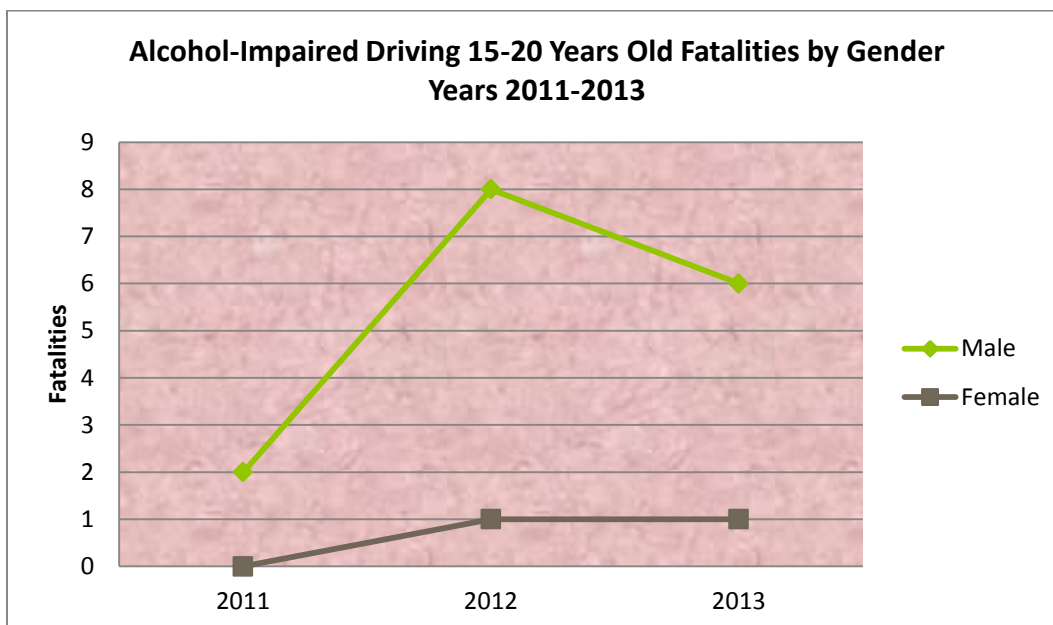


Figure 9: Impaired Driving 15-20 Years Old Fatalities by Gender Years 2011-2013

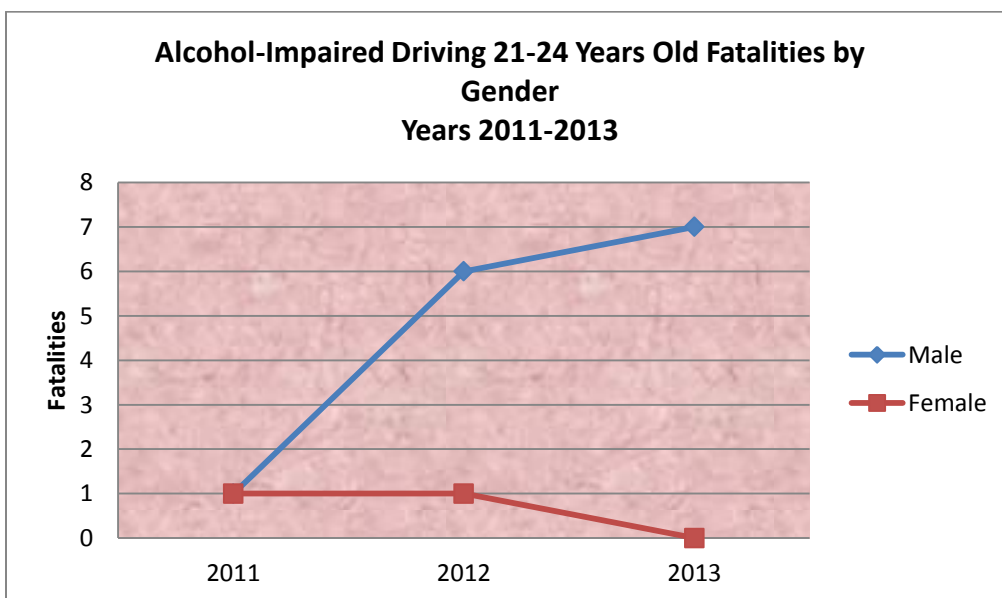


Figure 10: Impaired Driving 21-24 Years Old Fatalities by Gender Years 2011-2013

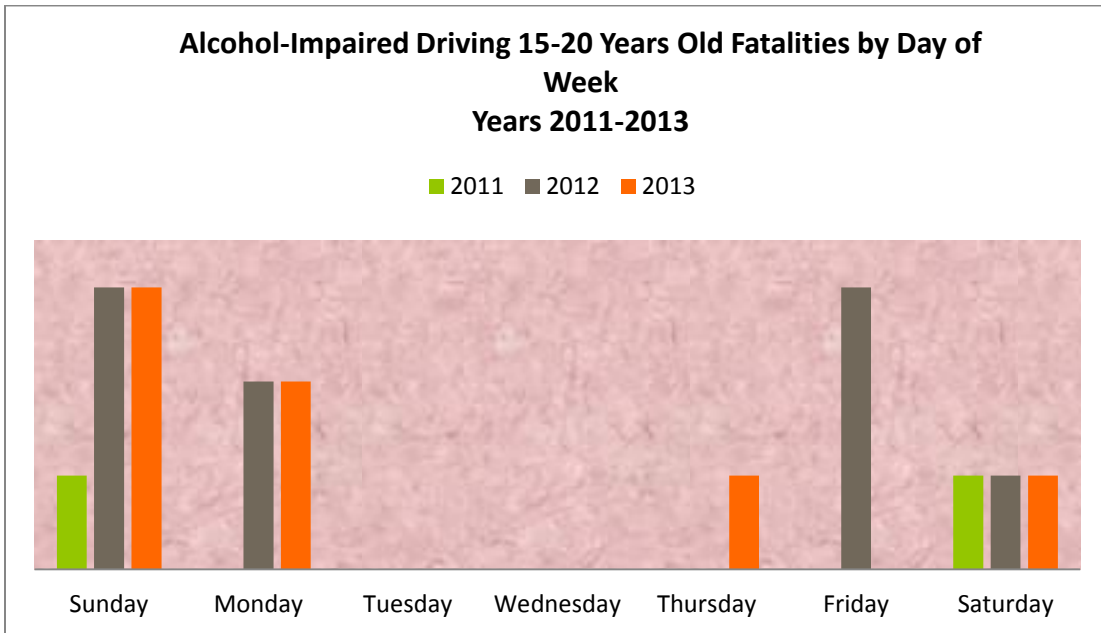


Figure 11: Impaired driving 15-20 Years Old fatalities by day of Week Years 2011-2013

Impaired driving fatalities data by day of week for the 2011-2013 period shows that most of these fatalities occurred on Sundays with 32%, Saturdays accounted for 28% of total impaired driving fatalities and Mondays accounted for 13% each.

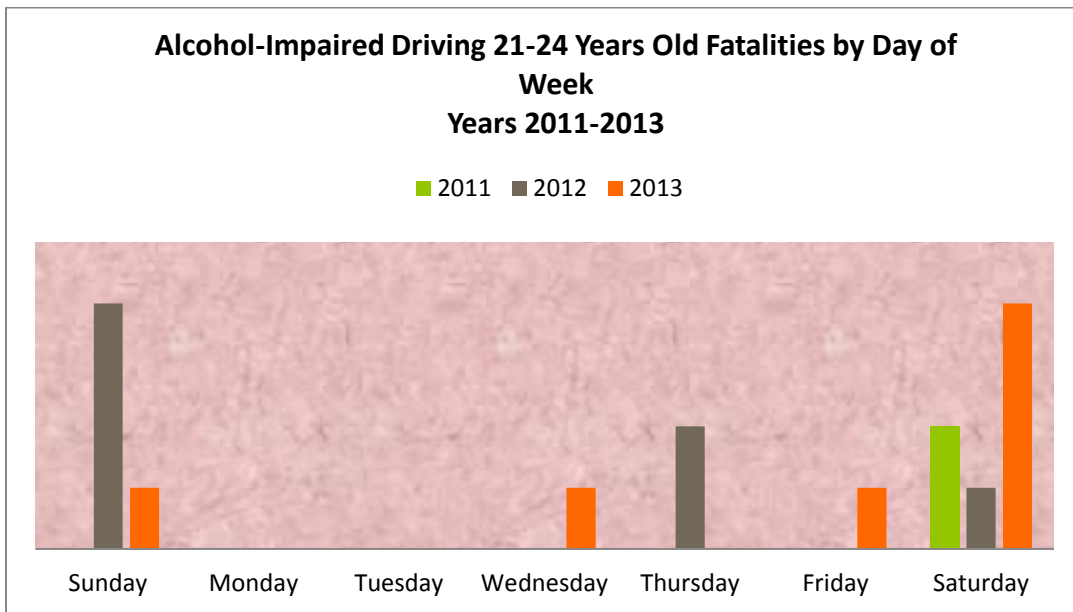


Figure 12: Impaired Driving 21-24 Years Old fatalities by Day of week Years 2011-2013

In addition, the chart below shows that during this three-year period, 79% youth impaired driving fatalities occurred between 6:00PM-6:00AM. Nighttime shows to be a predominant factor in these fatalities as well as in impaired driving fatalities in general.

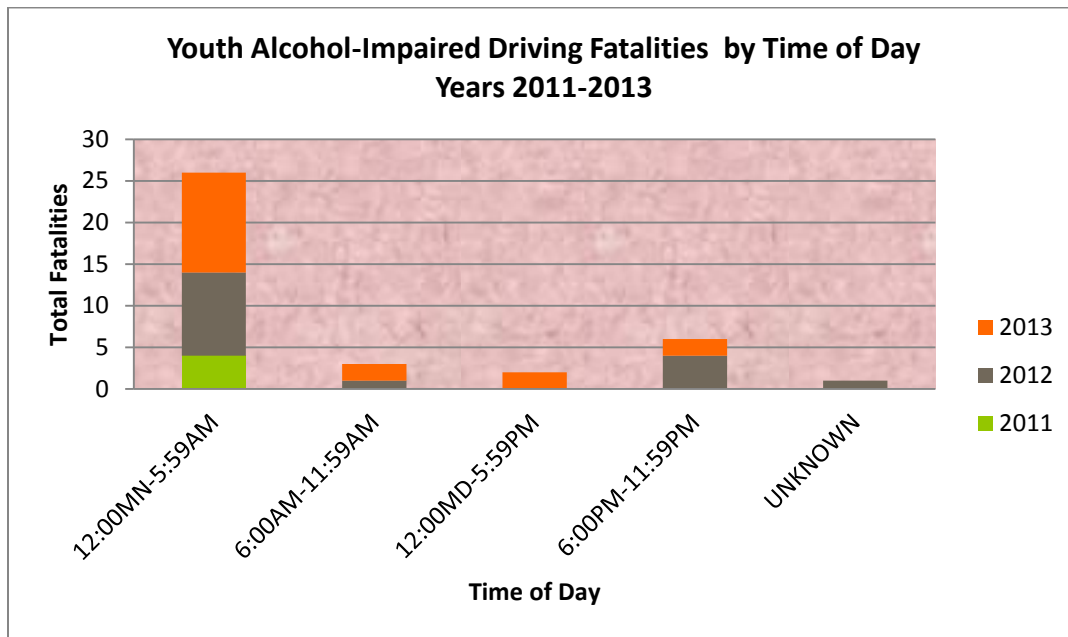


Figure 13: Youth Impaired Driving by Time of Day Years 2011-2013

Data of youth alcohol-impaired driving fatalities by month shows a regular pattern throughout the year. However, when averaging the totals for each month during the three-year period, May accounted for the highest amount of fatalities with 17%, followed by February which accounted for 13% and March for 13%. Summer months of July, August, and September add up to 32% of total alcohol impaired fatalities for this period.

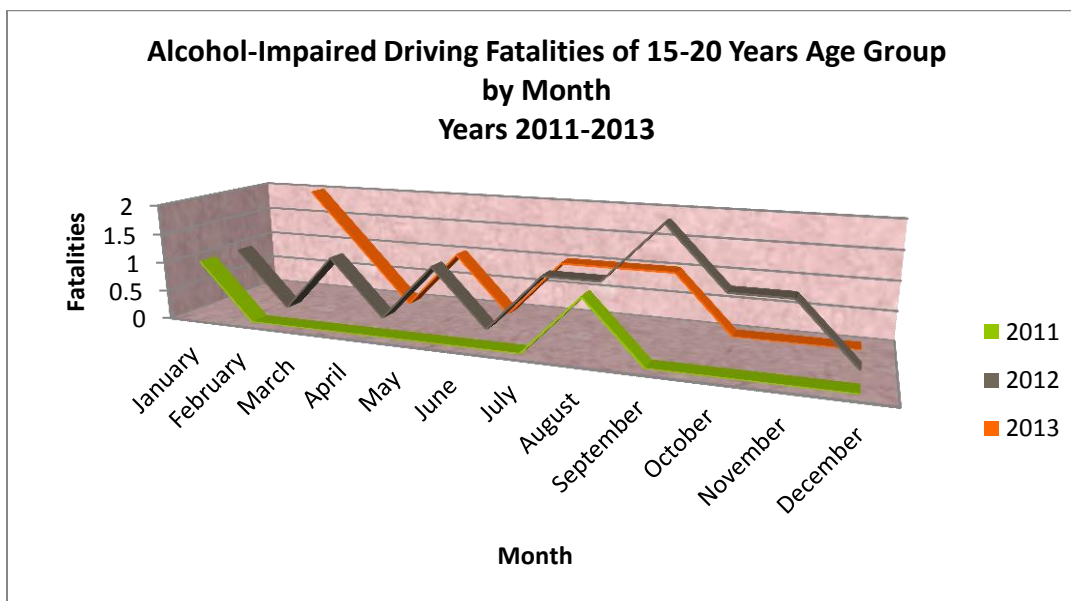


Figure 14: Impaired Driving 15-20 Years Old Fatalities by Month Years 2011-2013

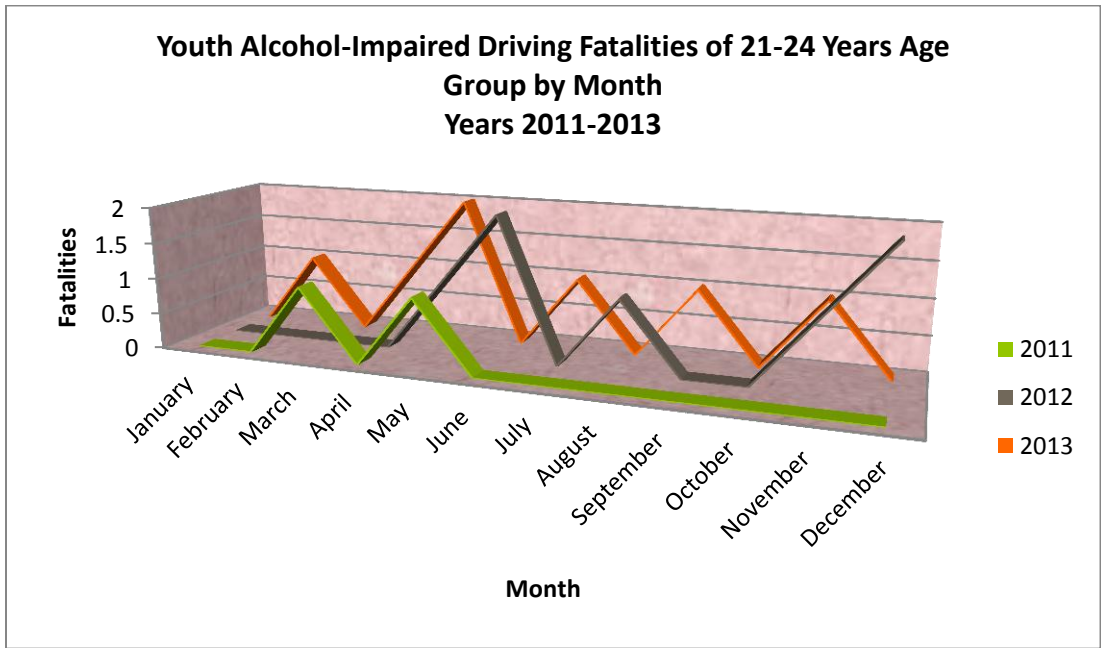


Figure 15: Youth Impaired Driving 21-24 Years Old Fatalities by Month Years 2011-2013

YOUTH IMPAIRED DRIVING FATALITIES YEARS 2011-2013	
RANKING	MUNICIPALITY
1	SAN JUAN
2	CAGUAS
3	BAYAMON
4	CAYEY
5	LOIZA
6	JUANA DIAZ

Figure 16: Youth Impaired Driving fatalities by Municipalities Years 2011-2013

Data for youth alcohol-impaired driving fatalities by municipality shows that those located in the metropolitan area, such as San Juan, Caguas and Bayamón, have the highest amount of impaired driving fatalities for this three-year period.

Other important information regarding youth alcohol-impaired driving:

- Metropolitan areas and primary roads showed the most youth impaired driving fatalities.
- 60% of young impaired drivers killed were unrestrained.
- 100% of young alcohol impaired motorcycle riders killed was un-helmeted.
- 84% alcohol impaired driving fatalities also presented a speeding factor.

Alcohol-Impaired Driving – Injury crashes

Data extracted from CARE system was reviewed and analyzed to identify crashes involving impaired drivers. This system lists the following as descriptions of driver’s condition:

- Drunk
- Fatigued
- Inebriated
- Driving under the influence of drugs
- Learner driver
- Other
- Normal
- Unknown

Note that these descriptions are not equivalent to the BAC levels that correspond to impaired driving. Moreover, the variable *“Driving Under the Influence of Drugs”* does not identify the type of drug(s) consumed.

Following table contains the summarized statistics of crashes involving impaired drivers for all years on which data is available. Overall, approximately 3-3.5% of all crashes were considered to have been DUI related. These statistics are considered to be underrepresented as other studies have identified impaired driving to be more predominant.

Table 1: Crash Statistics by Driver Condition Using CARE Data

Year	DUI ^b	Fatigue	Other	Normal	Unknown	Total	% of DUI
2002	827	52	91	23,922	2,238	27,130	3.0%
2003	1,032	68	188	26,718	2,305	30,311	3.4%
2004	950	37	87	29,298	2,499	32,871	2.9%
2005	1,162	46	132	31,731	2,726	35,797	3.2%
2006	1,067	30	132	30,434	2,591	34,254	3.1%
2007	1,124	133	386	27,656	2,179	31,478	3.6%
2008	964	203	661	25,118	2,022	28,968	3.3%
2009	971	204	707	25,130	1,917	28,929	3.4%
2010 ^a	--	--	--	--	--	--	--
2011 ^a	--	--	--	--	--	--	--
2012	878	176	718	21,658	1,671	25,101	3.5%

^a Crash data is not available for years 2010 and 2011.

^b Crashes involving drunk, inebriated, and under the influence of drugs were identified as DUI crashes.

SPEEDING & AGGRESSIVE DRIVING

Speeding – Fatalities

Speeding and aggressive driving are two major contributors in fatal crashes. According to FARS, in 2013 there were 149 speed related fatalities, accounting for 43% of all traffic fatalities, an 8% increase compared with 2011.

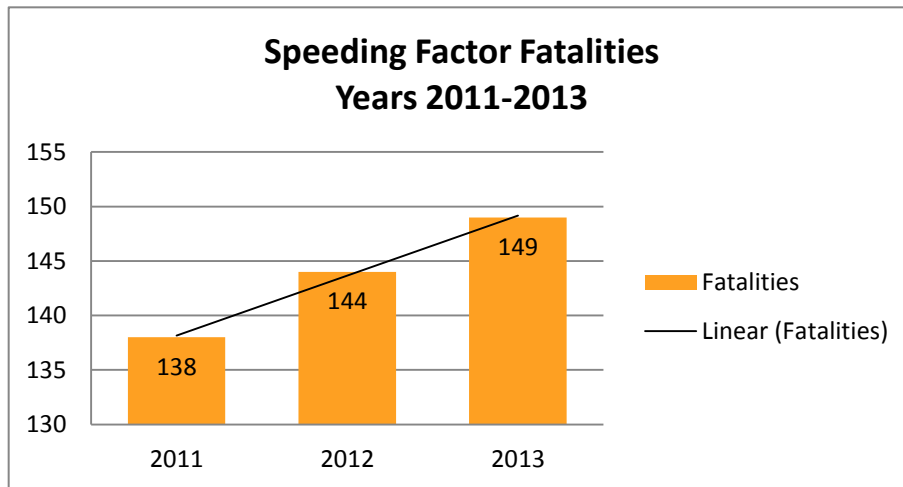


Figure 17: Speeding Factor Fatalities Years 2011-2013

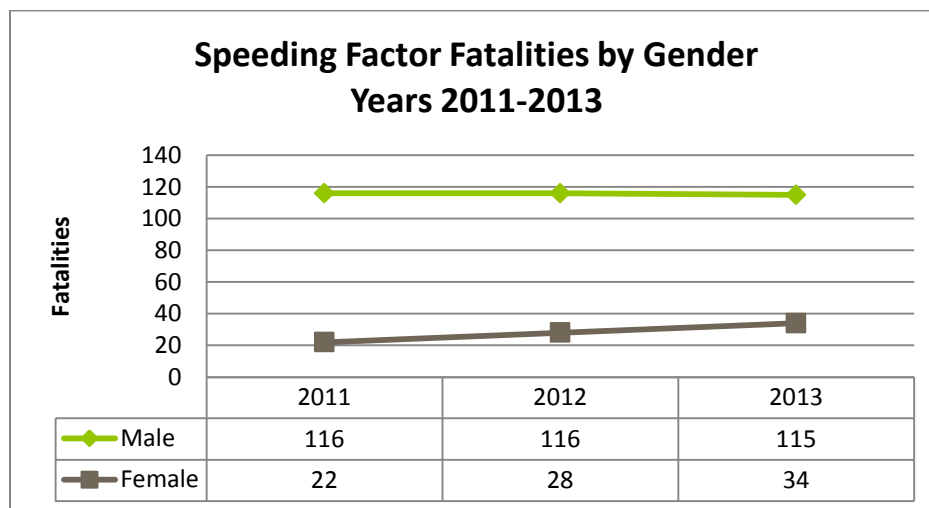


Figure 18: Speeding Factor Fatalities by Gender Years 2011-2013

Speeding factor fatalities by gender data established that 77% of total speeding fatalities were male. However, an increase of 54% is seen in the female category, from 22 in 2011 to 34 in 2013.

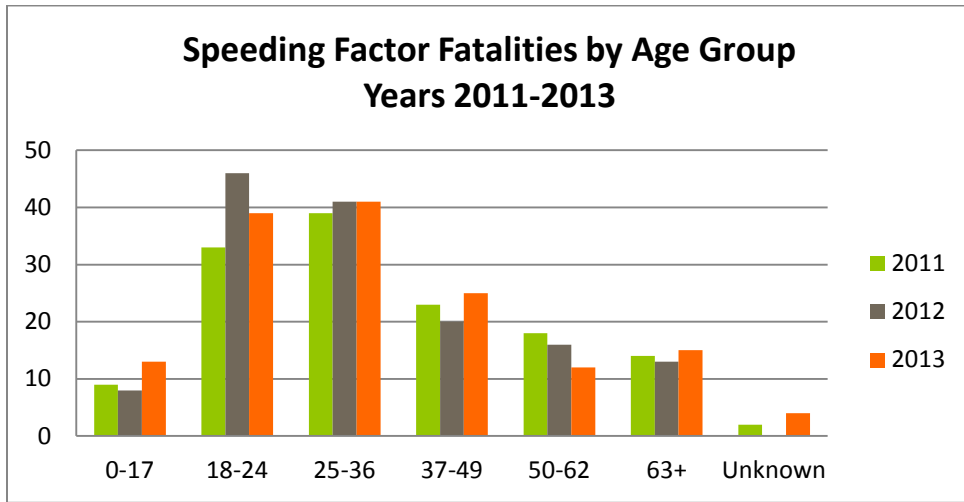


Figure 19: Speeding Factor Fatalities by Age Group Year 2011-2013

Speeding factor fatalities by age group data of for the 2011-2013 period, illustrates how the 18-36 age group is in highest risk, accounting for 55% of total speeding factor fatalities.

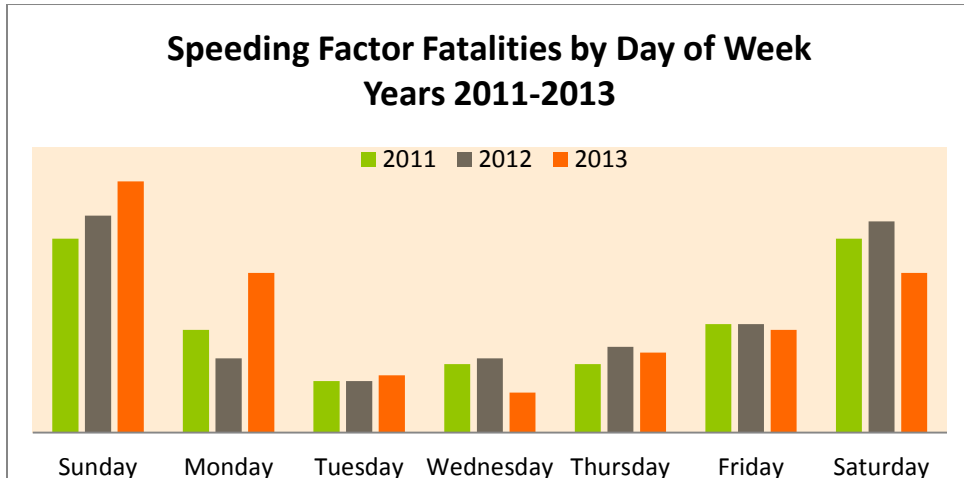


Figure 20: speeding Factor Fatalities by Day of Week Years 2011-2013

Speeding factor fatalities by day of week for this three-year period illustrates Sunday accounting for most fatalities with 23%. It is followed by Saturday accounting for 23% and Monday for 14%. This same pattern can be seen in impaired driving fatalities, concluding that weekends represent the highest risks for fatal crashes to occur.

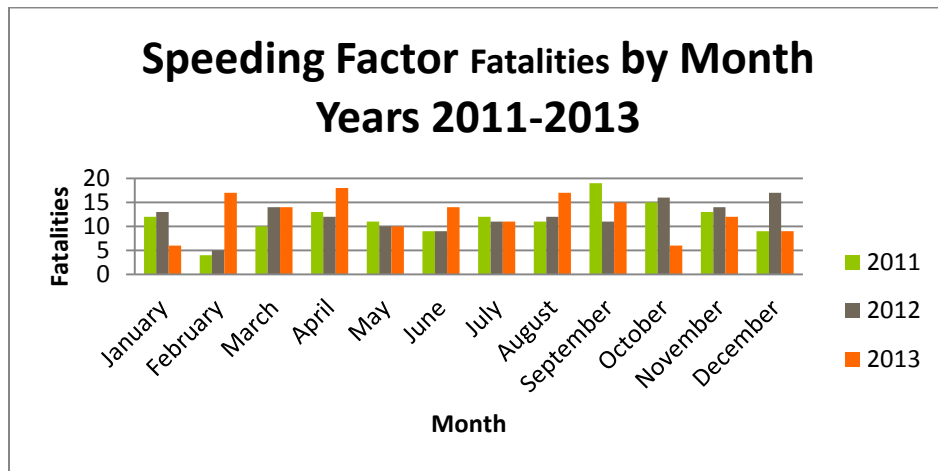


Figure 21: Speeding Factor Fatalities by Month Years 2011-2013

Speeding factor fatalities by month for 2011-2013 period, shows the amount of fatalities are almost similar during this three-year period. However, slight peaks can be appreciated for the months of April, August, and September.

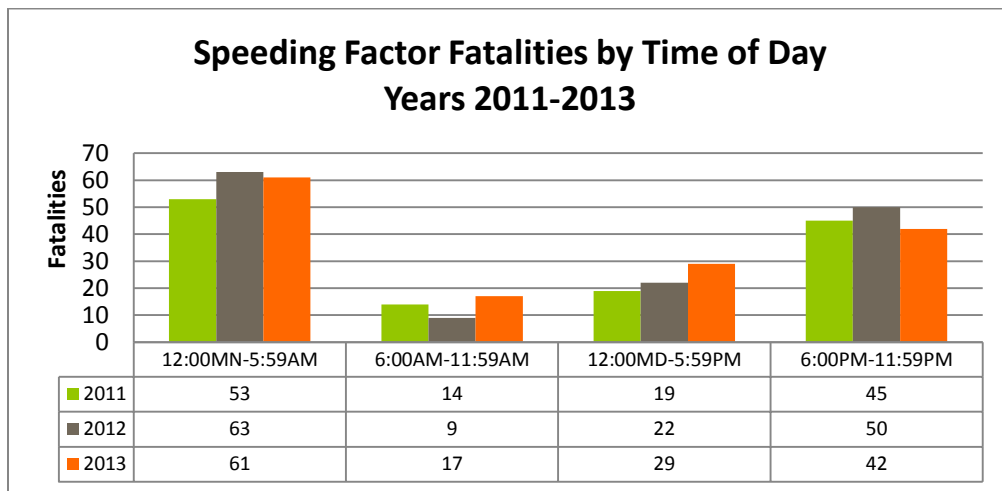


Figure 22: Speeding Factor Fatalities by Time of Day Years 2011-2013

Speeding factor fatalities by time of day during 2011 through 2013 illustrates most fatalities occurring during the nighttime, with 73% taking place between the hours of 6:00pm and 5:59am. These dark hours continue to represent the riskiest time periods for speed-related fatalities to occur.

SPEEDING FACTOR FATALITIES BY MUNICIPALITY YEARS 2011-2013		
RANKING	MUNICIPALITIES	TOTAL FATALITIES
1	SAN JUAN	36
2	PONCE	17
3	CAGUAS	13
4	JUANA DIAZ	12
5	ARECIBO	11

Figure 23: Speeding Related By Municipalities Year 2011-2013

Speeding factor fatalities data by municipality during 2011-2013 period, demonstrates that densely populated municipalities such as San Juan, Ponce, Caguas, and Arecibo had the highest number of these fatalities. Although Juana Díaz, which is a smaller municipality east of Ponce, ranks fourth. The municipalities of Bayamón, Aguadilla, and Guayama rank in the sixth position, each reporting 10 speed-related fatalities. Most of these fatalities occurred on primary highways and roads.

Speeding Injury Crashes

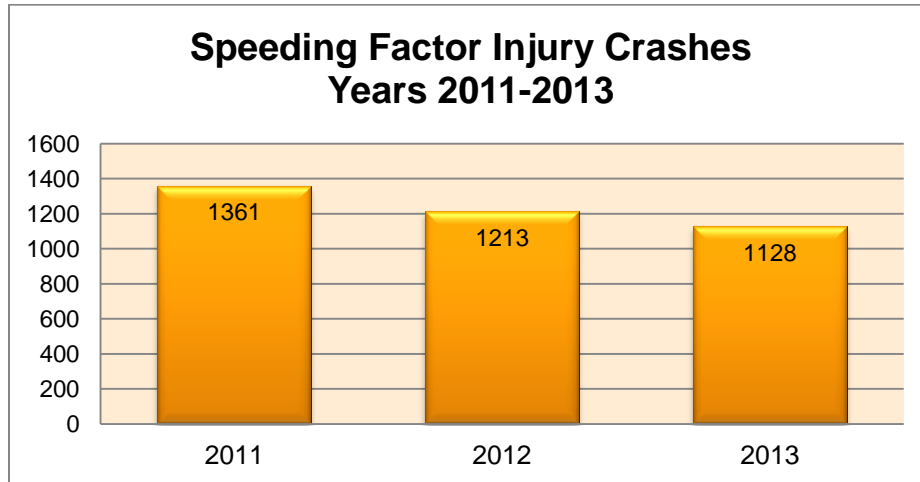


Figure 24: Speeding Factor Injury Crashes Years 2011-2013

From year 2011 through 2013, a total of 3,702 speeding injury crashes were reported. When comparing one year with the next, it illustrates a reduction of these crashes during this period. Between 2011 and 2012 the reduction was of 148 crashes, while between 2012 and 2013 reduction was of 85.

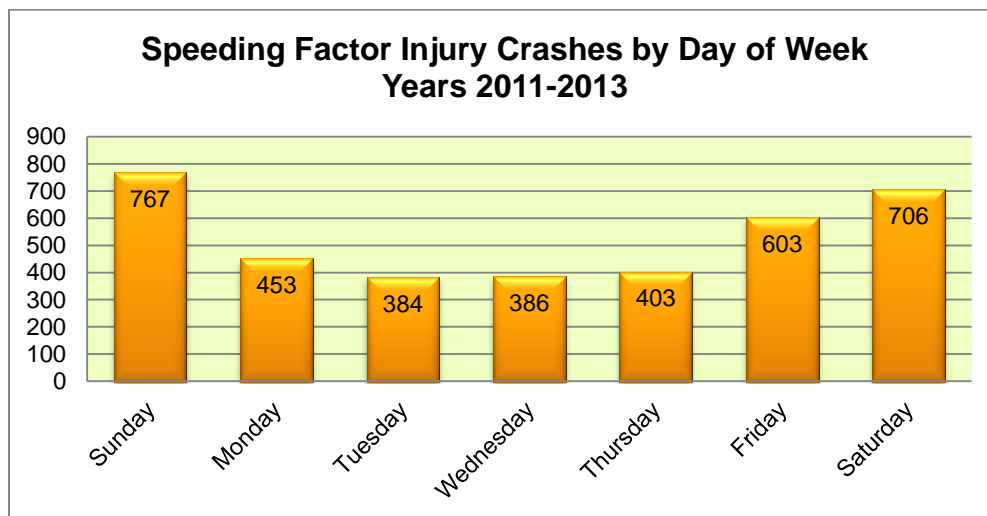


Figure 25: Speeding Factor Injury Crashes by Day of Week Years 2011-2013

Speeding injury crashes by day of week for the three-year period of 2011 through 2013 illustrate that most crashes took place on weekend days Friday, Saturday and Sunday with a total of 2,076 for a 56%. Sunday is most overrepresented of all with a total of 767 for a 21%.

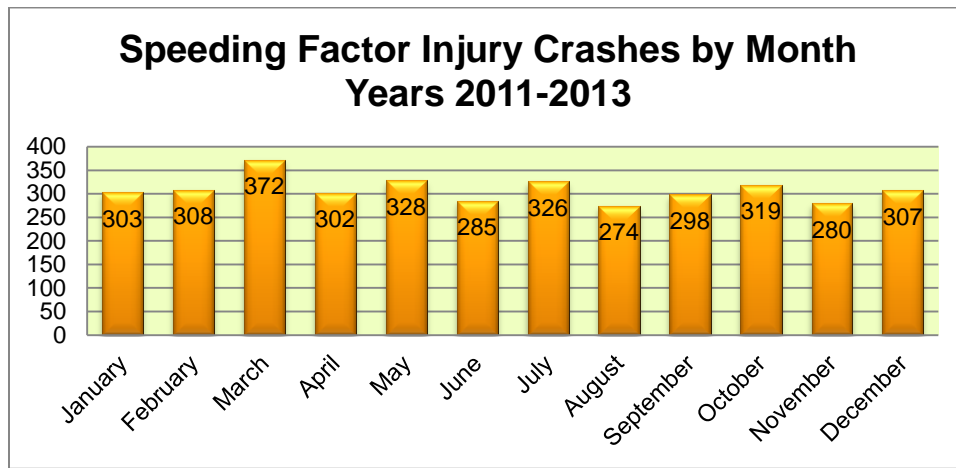


Figure 26: Speeding Factor Injury-Crashes by Month Years 2011-2013

Speeding injury crashes by month for the three-year period of 2011 through 2013 illustrate more or less an even number of these crashes occur from month to month. However, March reported the most with 372 comprising 10% of total, followed by May with 328 comprising 9%. Month reporting the least amount of crashes is August with a total 274, or 7%.

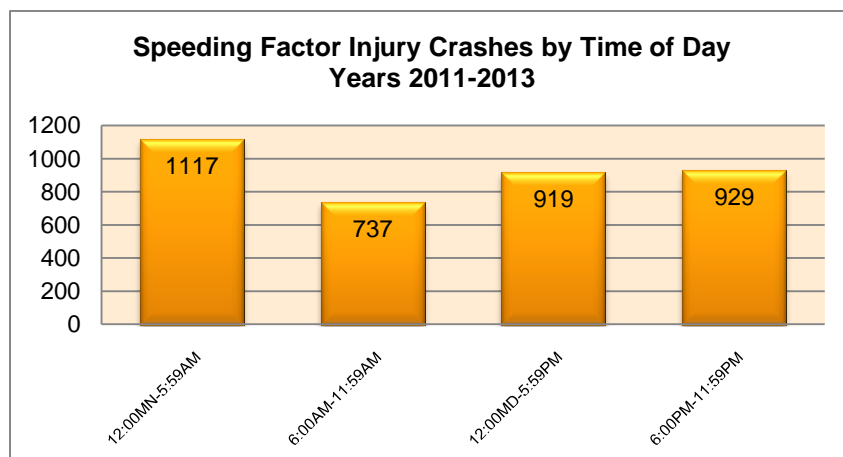


Figure 27: Speeding Factor Injury Crashes by Time of Day Years 2011-2013

Speeding injury crashes by time of day for the three-year period of 2011 through 2013 were mostly reported between the hours of 12:00md to 5:59pm with a total of 1,117 crashes for a 30%. On the other hand, hours between 12:00md and 11:59pm and 6:00pm to 11:59pm have almost even results reporting 919 and 929 crashes, respectively. Morning hours between 6:00am and 11:59am reported the least amount of crashes with a total of 737, for a 20%.

Motorcyclist fatalities data provided by FARS for the 2011-2013 reported a total of 149 fatalities. These fatalities accounted for 14% of 1,071 total traffic fatalities during this three-year period.



Figure 28: Motorcyclist Fatalities 2011-2013

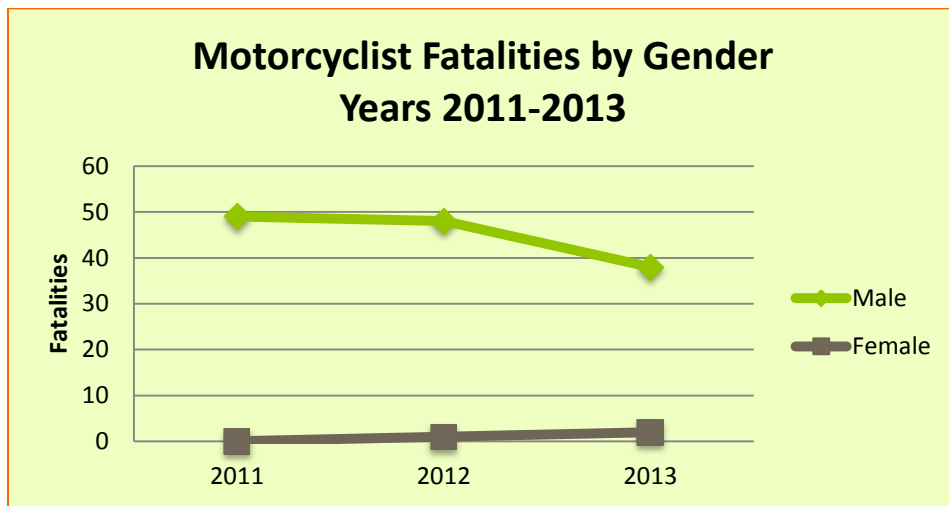


Figure 29: Motorcyclist Fatalities by Gender Years 2011-2013

Motorcyclist fatalities by gender for the 2011-2013 period reported 98% of these fatalities as male, while 2% female.

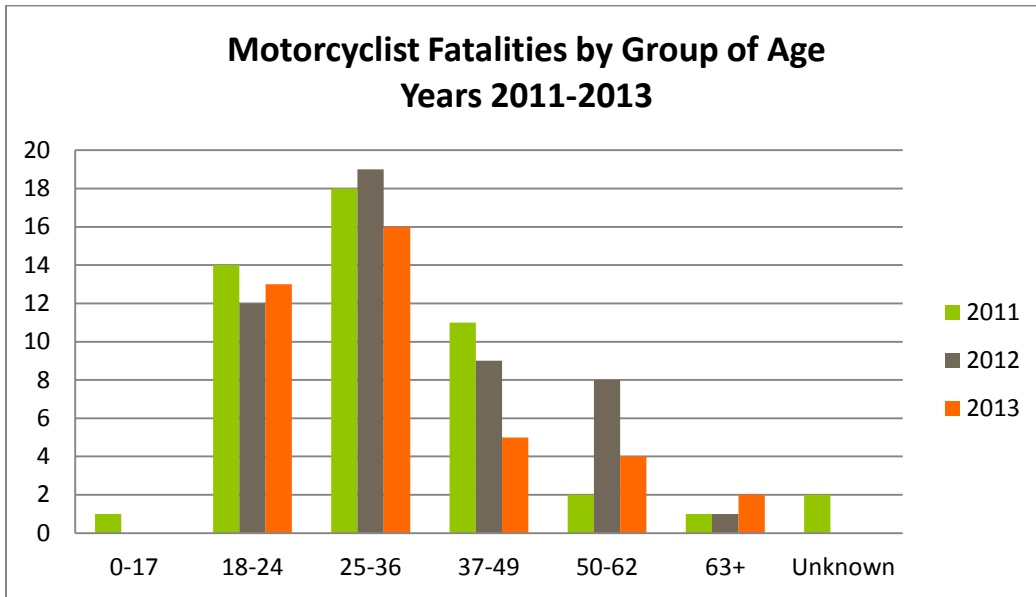


Figure 30: Motorcyclist Fatalities By Group of Age Years 2011-2013

Motorcyclist fatalities by age group for the 2011-2013 period indicates young adults between the ages of 18-36 accounting for 67% of total motorcyclist fatalities.

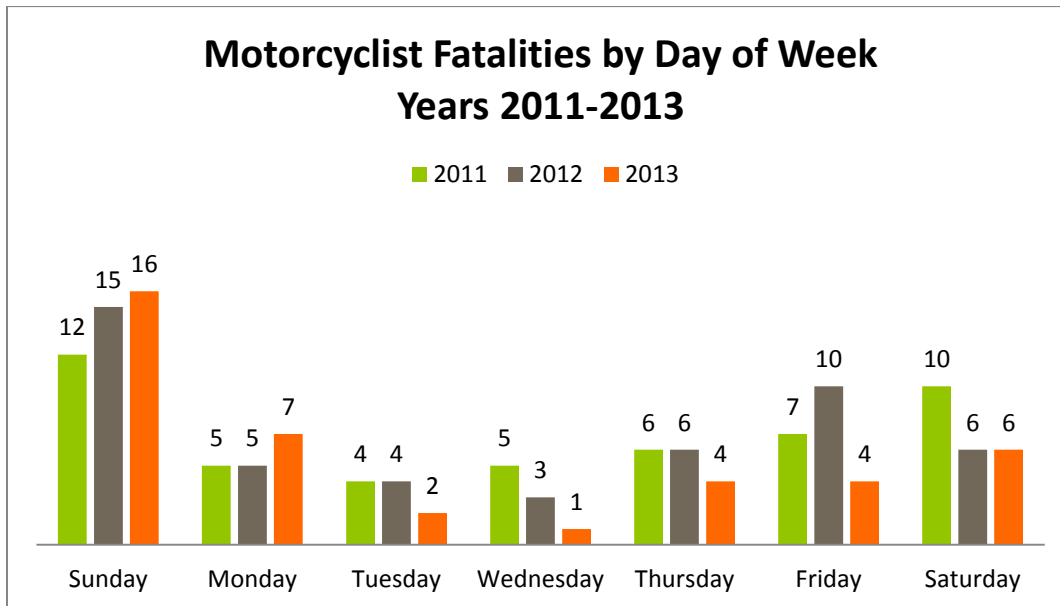


Figure 31: Motorcyclist Fatalities By Day of the Week Years 2011-2013

Motorcyclist fatalities by day of week for the 2011-2013 period illustrates Sunday is the day with the most fatalities accounting for 31% of total, with 43 fatalities making. It is followed by Saturday with 22, or 16%, and Friday with 21, or 15%. In conclusion, 62% of motorcyclist fatalities occurred on weekend days during this period.

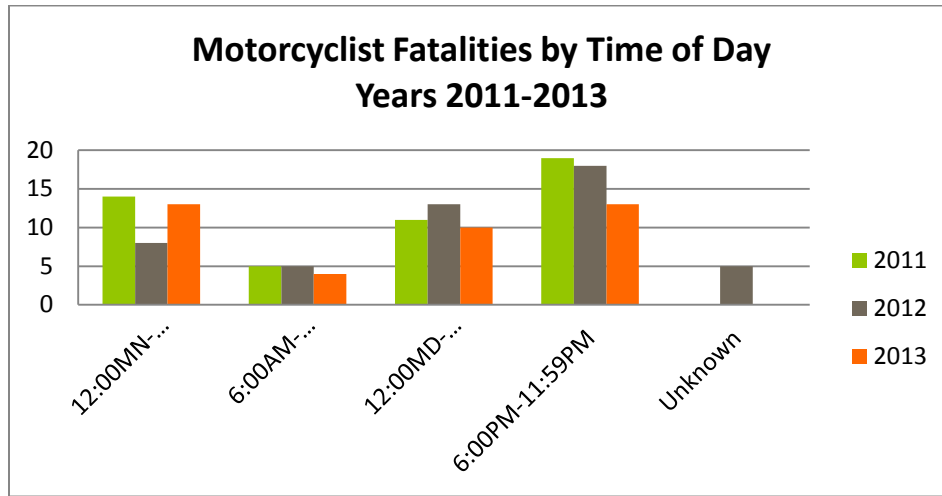


Figure 32: Motorcyclist Fatalities By Hour Years 2011-2013

Motorcyclist fatalities by time of day for the 2011-2013 period reported a total of 138 fatalities, of which 50 occurred between the hours of 6:00pm and 11:59pm. These time periods accounted for 36% of total motorcyclist fatalities, and was followed by the hours between 12:00pm and 5:59pm with 34, or 34%, indicating most fatalities occurred during the afternoon and early night hours. Together, both periods account for 70% of total motorcyclist fatalities.

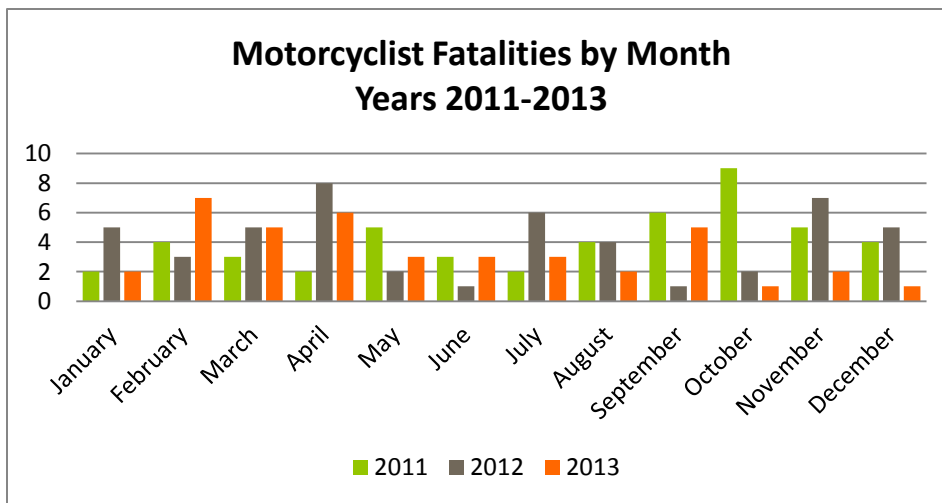


Figure 33: Motorcyclist Fatalities By Month Years 2011-2013

Motorcyclist fatalities by month during the 2011-2013 period illustrates how fatalities vary from one month to another and one year to another. For example, 2011 reported most fatalities during the month of October, while 2012 reported them on April, and 2013 on February. When fatalities per month are summed up, the month with highest number of fatalities is April with a total of 16 fatalities, comprising 12% of total.

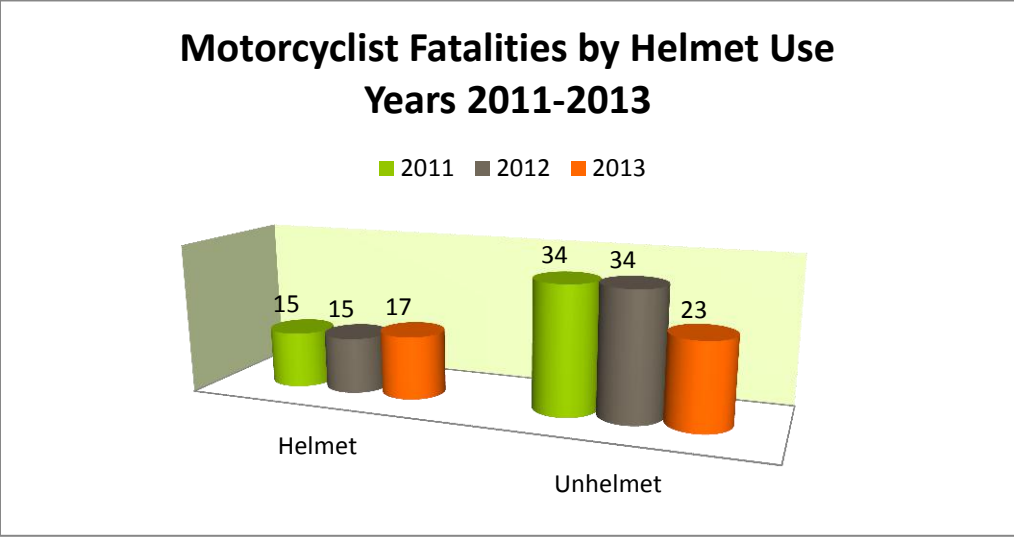


Figure 34: Motorcyclist Fatalities By Helmet Use Years 2011-2013

Motorcyclist fatalities by use of helmet during the 2011 through 2013 period shows 2011 and 2012 had the same number 15 fatalities with use of helmet and the same number of 34 fatalities with no use of helmet. Most importantly, fatalities with no use of helmet reported a reduction of 11 fatalities between 2012 and 2013.

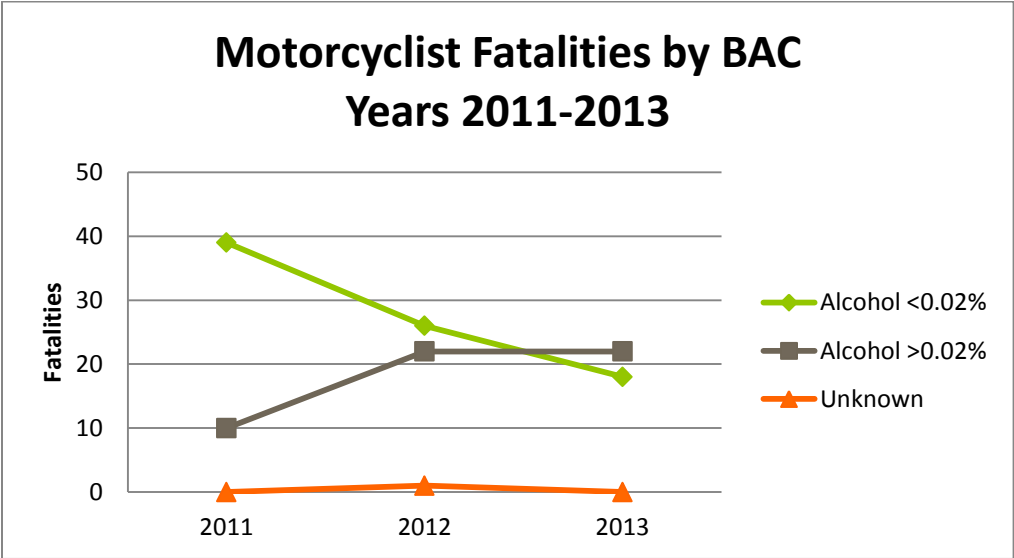


Figure 35: Motorcyclists Fatalities by BAC Years 2011-2013

Motorcyclist fatalities by BAC during the 2011 through 2013 period reported 39% of these had a BAC of .02% or higher.

In 2011 reported 10 fatalities with a BAC of .02% or higher, this accounted for 20% of fatalities during this year. Meanwhile, 2012 reported a marked increase on this type of fatalities; of the 49 total fatalities for this year 26, or a 53%, had a BAC of .02% or higher. However, in 2013 there was a reduction when, of the 40 total fatalities, 18 had a BAC of .02% or higher, accounting for a 45% of total motorcyclist fatalities for this year.

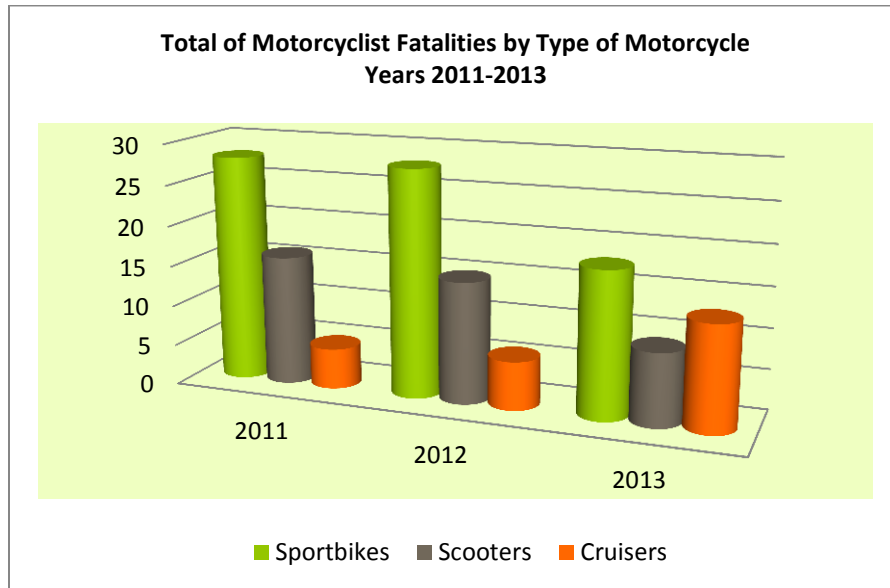


Figure 35: Total of Motorcycle Fatalities by Type of Motorcycle Years 2011-2013

Motorcyclist fatalities by type of motorcycle during 2011 through 2013 indicates 74 of these occurred while riding on sportbikes, 40 on scooters, and 24 on cruisers. Concluding that sportbike riders are most at risk of having a fatal crash, accounting for 54% of total motorcyclist fatalities.

Motorcyclist Fatalities By Municipality Years 2011-2013		
Ranking	Municipalities	Total Fatalities
1	Caguas	10
2	Bayamon	9
3	Ponce	9
4	San Juan	9
5	Carolina	8

Figure 37: Motorcyclist Fatalities By Municipalities Years 2011-2013

Motorcyclist fatalities by municipality during 2011 through 2013 reported most fatalities in the municipalities of Caguas, Bayamón, Ponce, San Juan, and Carolina. These municipalities accounted for 37% of total motorcyclist fatalities for this period. It should be noted that Caguas, Bayamón, San Juan, and Carolina are part of the great metropolitan area.

Motorcycle – Injury Crashes

Data from Care system available for years 2011 through 2013 shows that on this period 5,557 motorcycle injury crashes were reported.

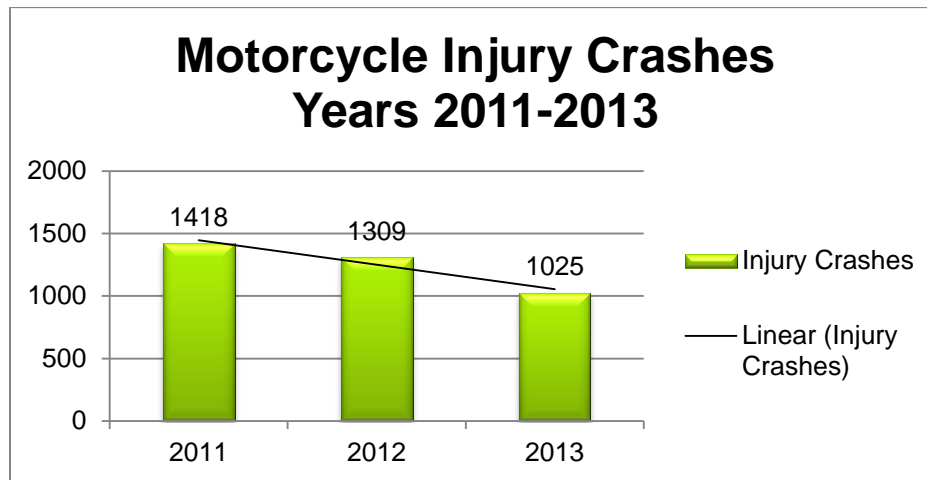


Figure 36: Motorcycle Injury Crashes Years 2011-2013

Motorcycle injury crashes from 2011 through 2013 illustrate significant reductions. This three-year period reported a total of 3,752 crashes on which one or more motorcyclists were injured. Between 2011 and 2012 there was an 8% reduction with 109 less injury crashes. Meanwhile, between 2012 and 2013 the reduction was of 284 crashes, for a 22%.

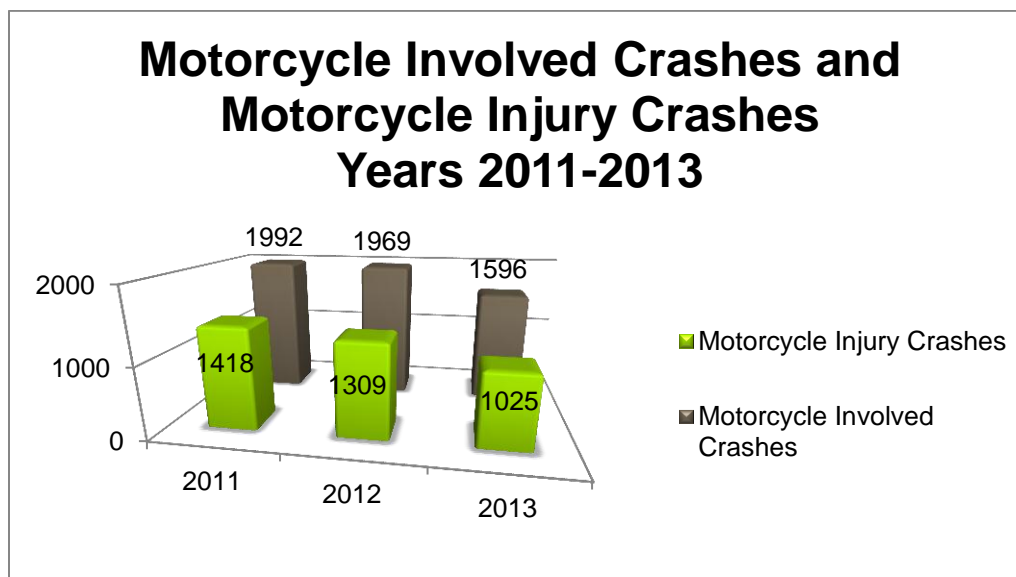


Figure 37: Motorcycle Involved Crashes Motorcycle Injury Crashes

Motorcycle involved crashes from 2011 through 2013 totaled 5,557; while motorcycle injury crashes for the same period totaled 3,752. This data illustrates that 68% of motorcycle involved crashes result in injuries to motorcyclists.

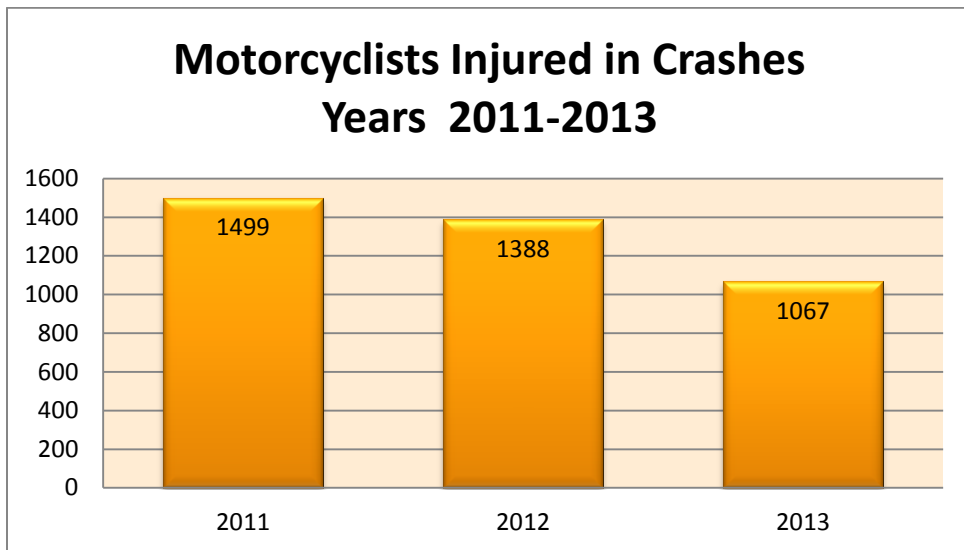


Figure 38: Motorcyclist Injured in Crashes Years 2011-2013

Motorcyclists injured in crashes from 2011 through 2013 totaled 3,954. A reduction of injuries has been observed for this three-year period. Between 2011 and 2012 reduction was of 7%, while between 2012 and 2013 reduction was of 23%.

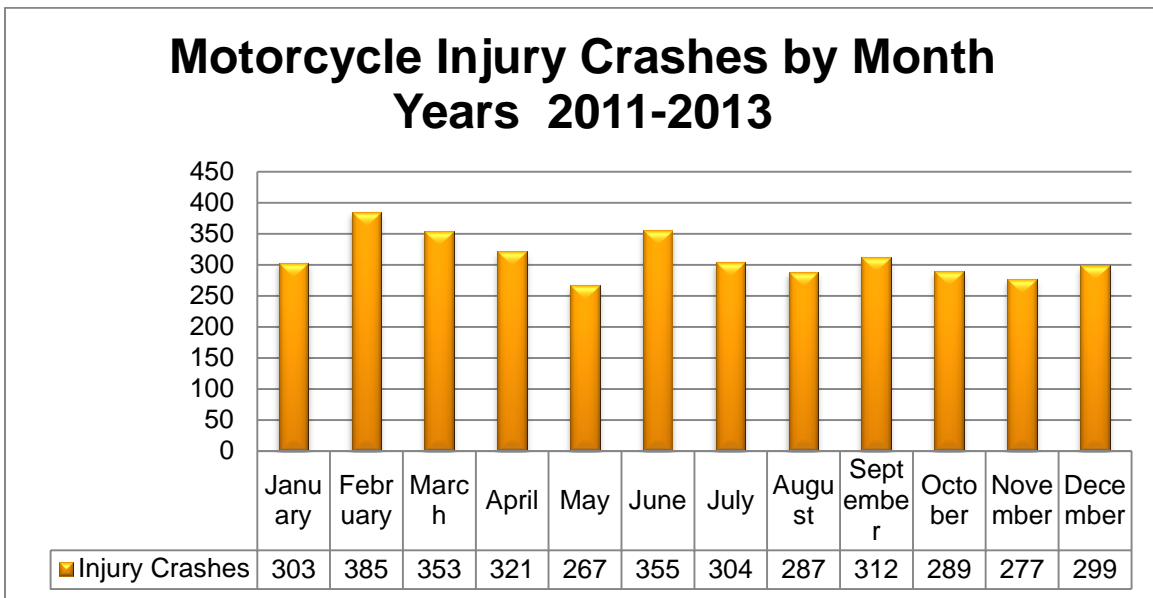


Figure 39: Motorcycle Injury Crashes By Month Years 2011-2013

Motorcycle injury crashes by month for the three-year period of 2011 through 2013 illustrate February is the month with most crashes with a total of 385 for a 10% of total, closely followed by June with 355 for a 9% of total. March is the third month with most motorcyclist injury crashes with 353, followed by April with 321. The month with the least amount of crashes is May with a total of 267, for a 7%.

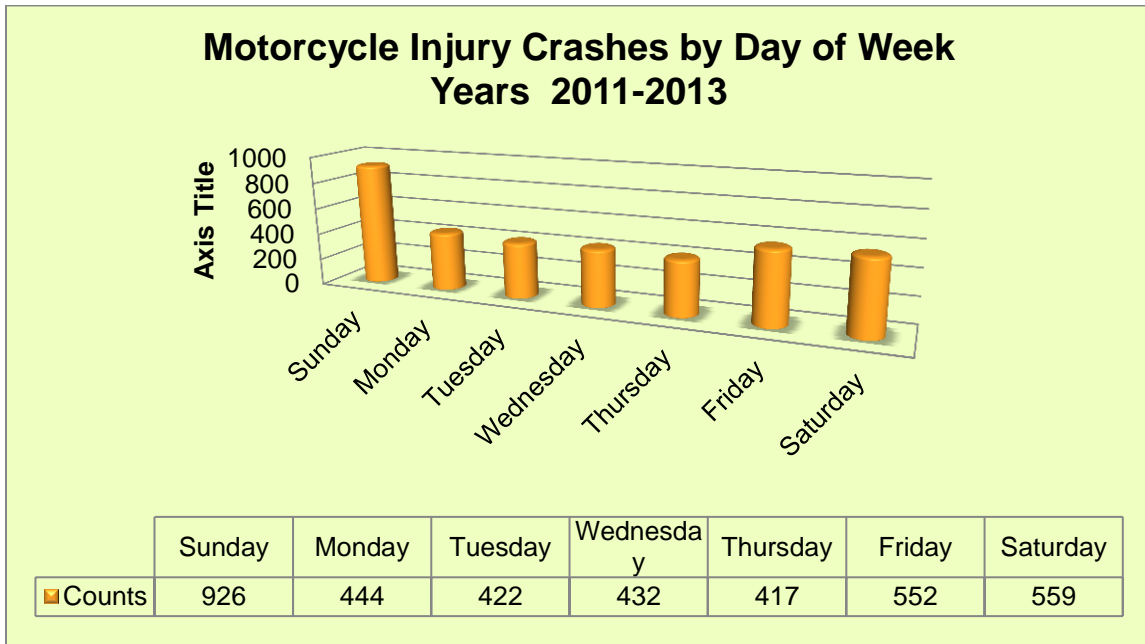


Figure 40: Motorcycle Injury Crashes by Month Years 2011-2013

Motorcycle injury crashes by day of week for the three-year period of 2011 through 2013 illustrates how the great majority of these crashes occurred on Sunday, accounting for a 25% with a total of 926 injury crashes. It is followed by Saturday with 559 crashes for a 15% of total and Friday with 552 crashes also comprising a 15%. Lastly, Monday, Tuesday, Wednesday and Thursday account for 11-12% each.

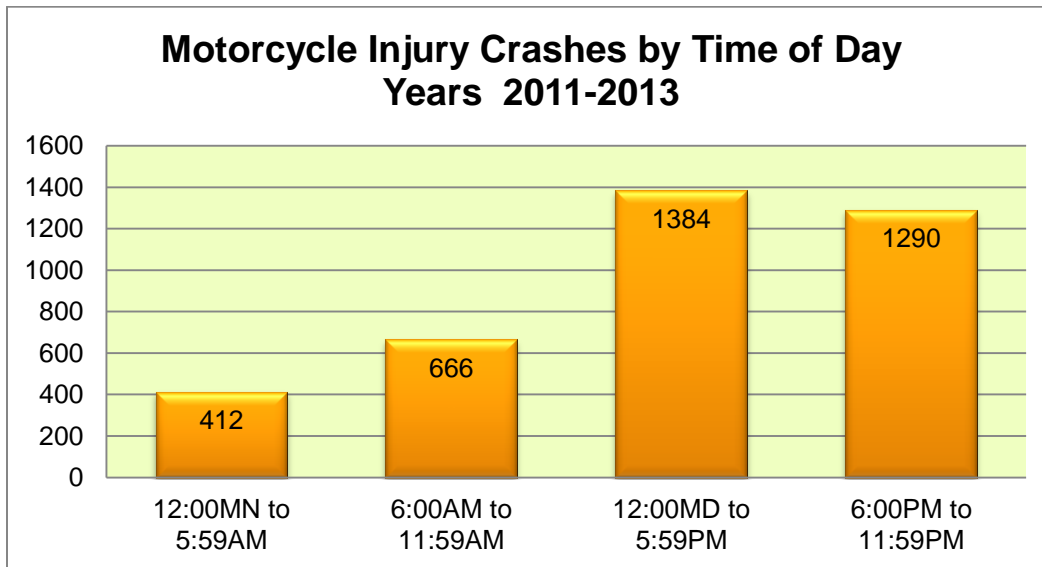


Figure 41: Motorcycle Injury Crashes by Time of Day Years 2011-2013

Motorcycle injury crashes by time of day for the three-year period of 2011 through 2013 illustrate that the time segment with most crashes was between 12:00md to 5:59pm with a total of 1,384; for 37% of total. This is followed by hours between 6:00pm and 11:59pm with a total of 1,290; for 34%. The time segment with the least amount of crashes is between 12:00mn and 5:59am with 412, or 11% of total.

Motorcycle Injury Crashes by Municipality Years 2011-2013

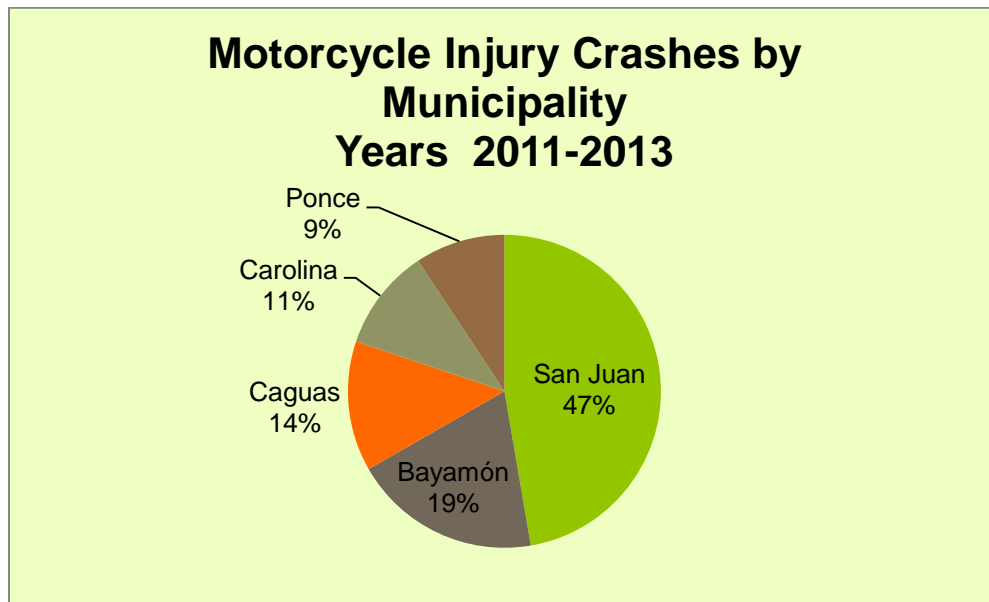


Figure 42: Motorcycle Injury Crashes By Municipaloty Years 2011-2013

Motorcycle injury crashes by municipality for the three-year period of 2011 through 2013 were reported most in the municipalities of San Juan, Ponce, Carolina, Caguas and Bayamón. These five municipalities comprise 32% of total injury crashes with a an altogether total of 1,205. San Juan comprises almost half of injuries reported amongst the five with 47%, followed by Bayamón with 19%. It should be noted that San Juan, Bayamón and Carolina are part of the greater metropolitan are; altogether they comprise 25% of total motorcycle injury crashes throughout the island.

OCCUPANT PROTECTION

Unrestrained - Fatalities

According to FARS data for the 2011-2013 period, a total of 343 fatalities were unrestrained-related. The year that shows the highest amount of these fatalities is 2013 with 117, or 32% of total fatalities for this three-year period.

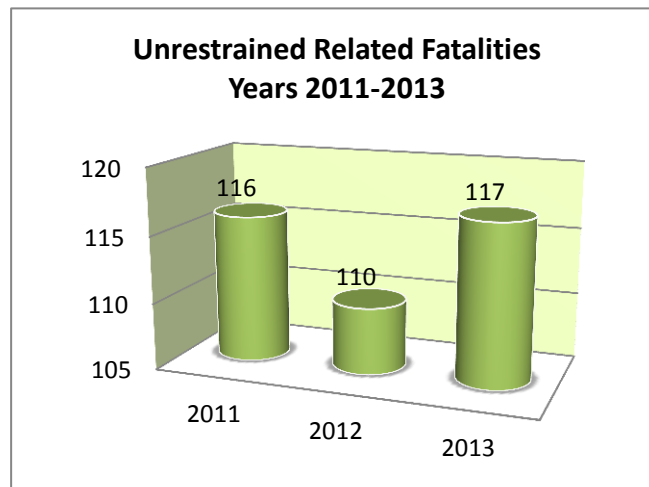


Figure 43: Unrestrained-Related Fatalities Years 2011-2013



Figure 44: Unrestrained-Related Fatalities By Gender Years 2011-2013

Unrestrained-related fatalities by gender during 2011-2013 reported 77, or 22%, were female, while 281, or 78%, were male. In 2013, which is the year with the highest amount of fatalities with 81% were male, while 19% were female.

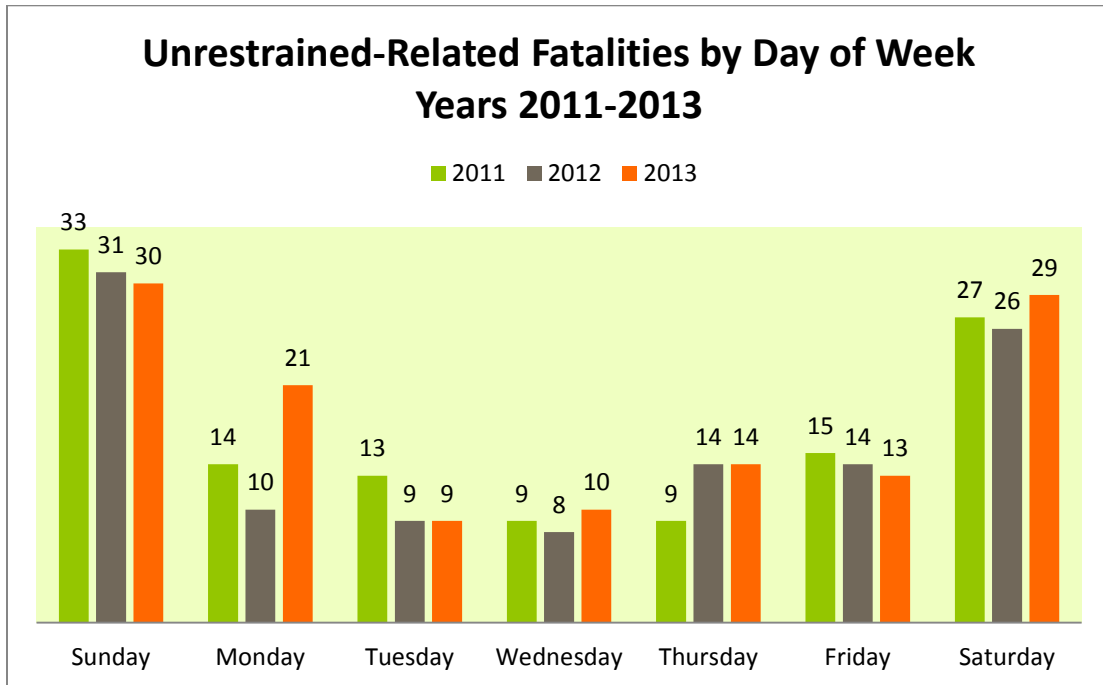


Figure 45: Unrestrained-Related Fatalities By Day of Week Years 2011-2013

When analyzing unrestrained-related fatalities data by day of week for this three-year period, we can detail the following:

- The days of the week with the highest amount of fatalities are Saturday, Sunday and Monday with a total of 221 or a 62%.
- Year 2013 shows to be the one with the most unrestrained related fatalities with a total of 80 reported on Saturdays, Sundays and Mondays for a 63%.
- Sunday shows to be the day with most fatalities during the 2011-2013 periods with a total of 94 or a 62% of total fatalities.

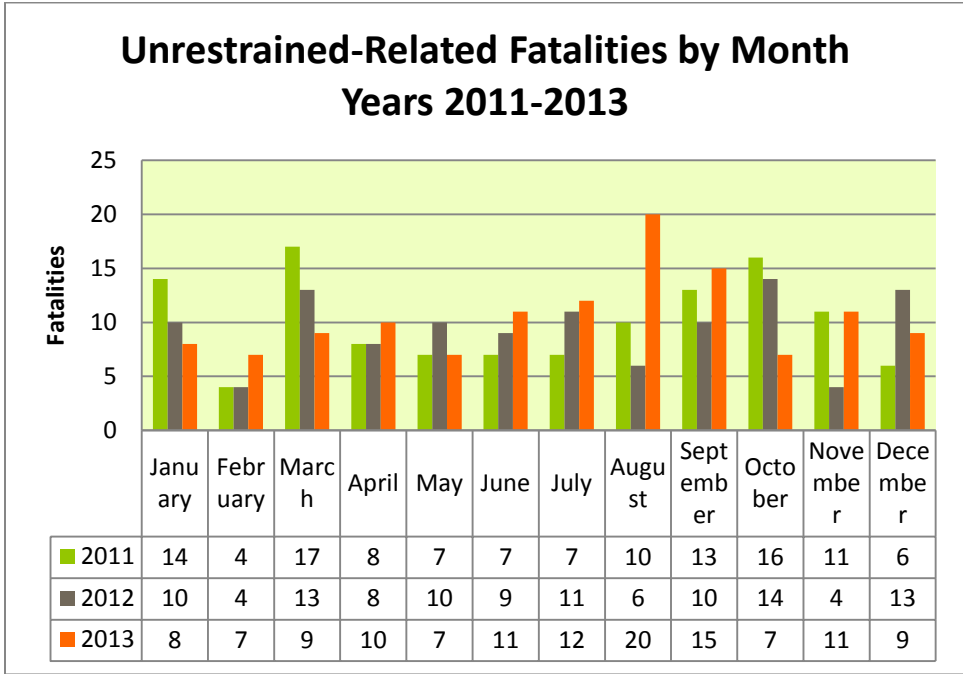


Figure 46: Unrestrained-Related Fatalities by Month Years 2011-2013

Unrestrained-related fatalities by month for the 2011-2013 period point out that months with the highest amount of fatalities are March with 39, September with 38, and October with 37. These three months accounted for 32% of total fatalities for this period.



Figure 47: Unrestrained-Related Fatalities by Classification Years 2011-2013

Unrestrained-related fatalities by driver and passenger classifications for the 2011-2013 period reported 241, or 67%, as drivers; while 117, or 33%, passengers. During 2013, drivers accounted for 64% of total unrestrained-related fatalities.

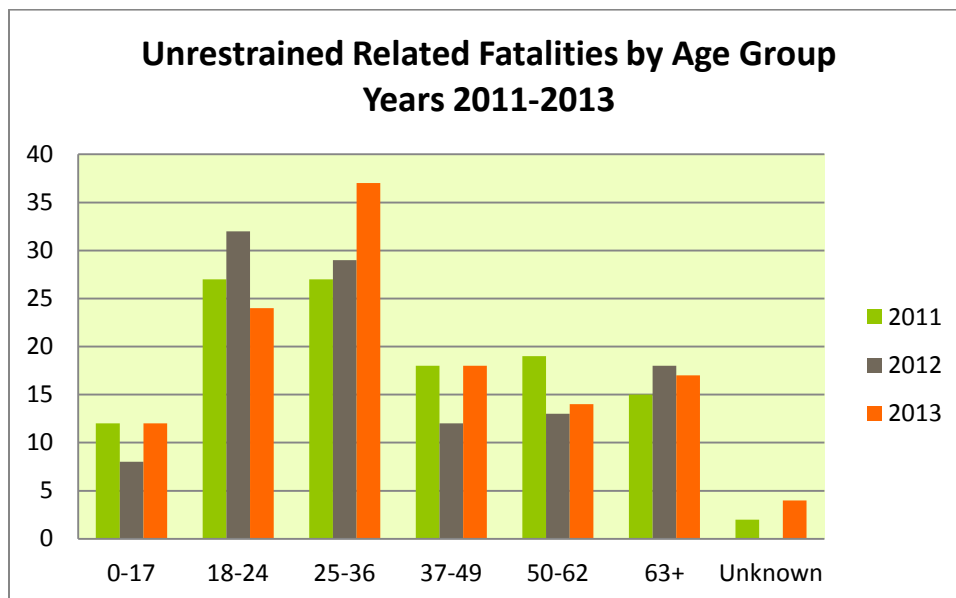


Figure 48: Unrestrained-Related Fatalities by Age Group Years 2011-2013

Unrestrained-related fatalities by age groups for the 2011-2013 period illustrates that age groups with the highest amount of fatalities are the 18-24 and 25-36 groups. These groups had a total of 176 fatalities, accounting for 49% of total fatalities reported during this three-year period. These are followed by the 63+ age group with 50 fatalities.

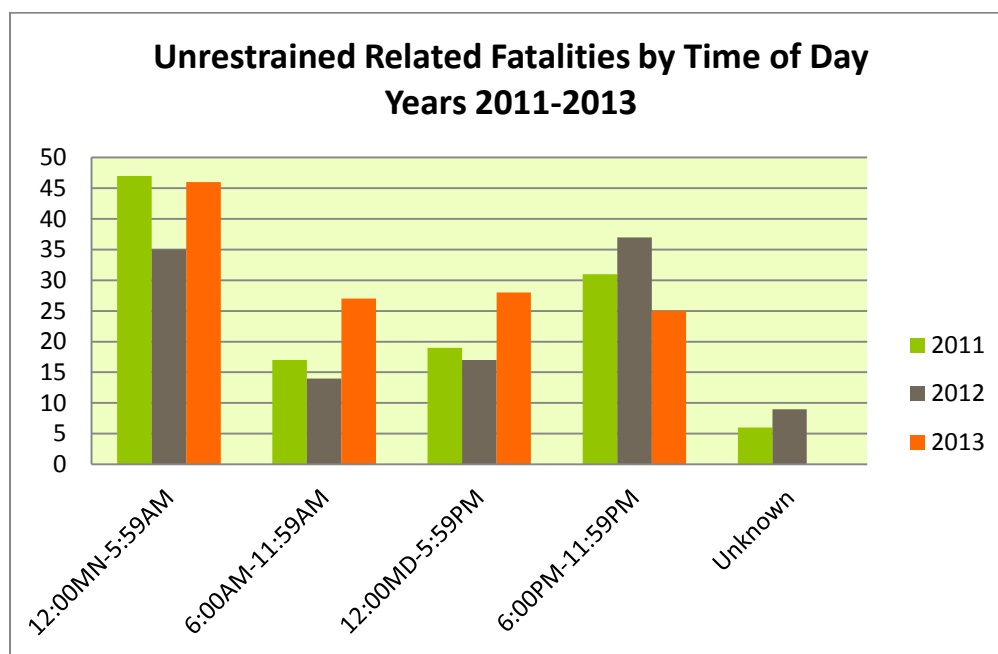


Figure 49: Unrestrained-Related Fatalities by Time of Day Years 2011-2013

Unrestrained related fatalities data by time of day for the 2011-2013 period reasserts that the hours between 12:00am and 5:59am accounted for the highest number of fatalities with a 36% of total fatalities. It is followed by the hours between 6:00pm and 11:59pm with 93.

UNRESTRAINED-RELATED FATALITIES BY MUNICIPALITY YEARS 2011-2013		
Ranking	Municipalities	Total Fatalities
1	San Juan	22
2	Arecibo	14
3	San Sebastian	13
4	Bayamon	11
5	Caguas	11

Figure 50: Unrestrained Related Fatalities by Municipalities Years 2011-2013

After analyzing data of unrestrained related fatalities by Municipality for the 2011-2013 period, San Juan is the municipality that accounted for the highest amount with 22 fatalities, followed by Arecibo with 14. Table above details the 5 municipalities with the highest amount of fatalities for this three-year period.

Unrestrained -Injury Crashes

From year 2011 through 2013, a total of 5,760 unrestrained-related injury crashes were reported. When comparing one year with the next, it illustrates a significant reduction of these crashes during this period. Between 2011 and 2012 the reduction was of 157 crashes, while between 2012 and 2013 reduction was of 538.



Figure 51: Unrestrained-Related Injury Crashes Years 2011-2013

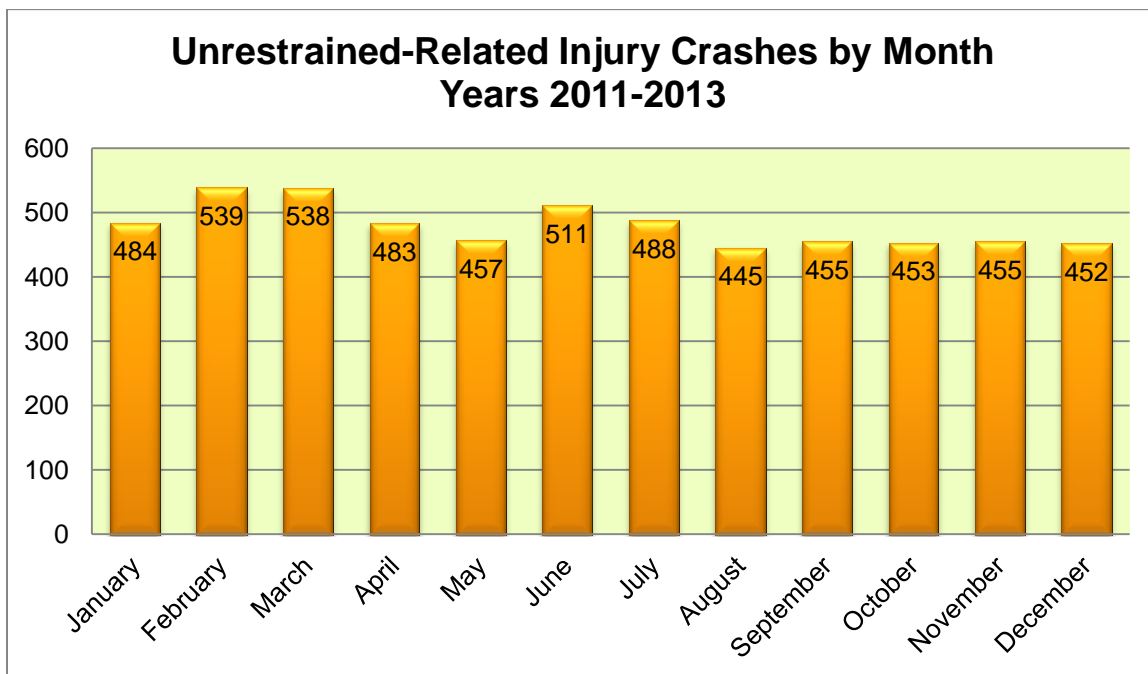


Figure 52: Unrestrained-Related Injury Crashes by Month Years 2011-2013

Unrestrained-related injury crashes by month for the three-year period of 2011 through 2013 illustrate most of these crashes are reported on February and March with totals 539 and 538, respectively. Both months total 1,077 crashes, comprising 19% of unrestrained injury crashes for this period.

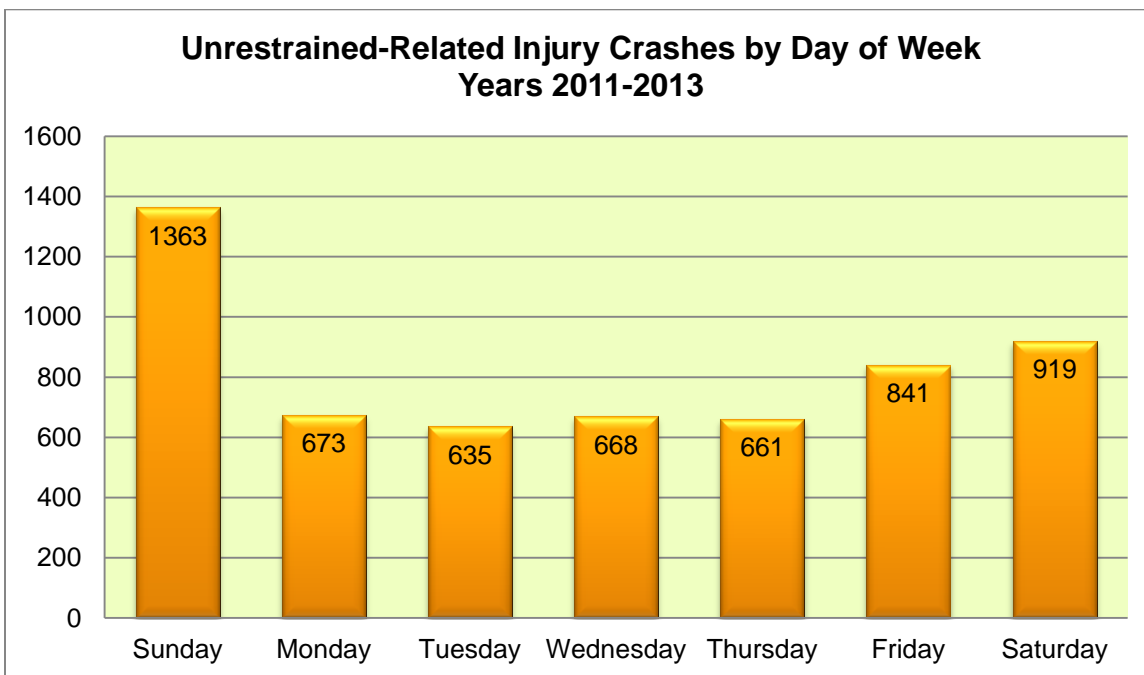


Figure 53: Unrestrained-Related Injury Crashes by Day of Week Years 2011-2013

Unrestrained-related injury crashes by day of week for the three-year period of 2011 through 2013 illustrate that most crashes took place on weekend days Friday, Saturday and Sunday with a total of 2,123 for a 37%. Sunday is most overrepresented of all with a total of 1,363 for a 24%.

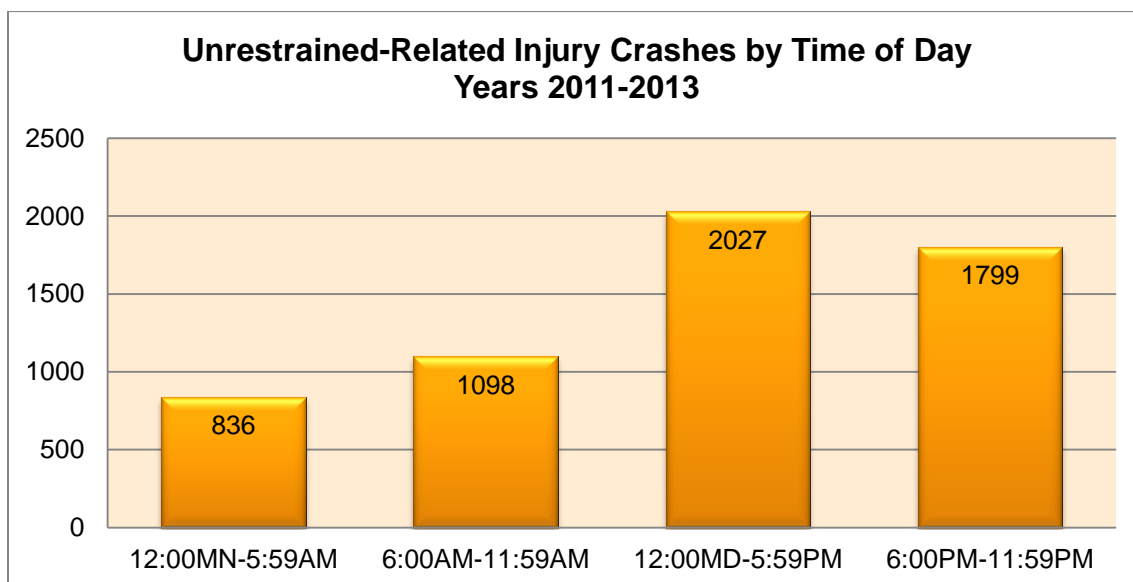


Figure 54: Unrestrained-Related Injury Crashes by Time of Day Years 2011-2013

Unrestrained-related injury crashes by time of day for the three-year period of 2011 through 2013 were mostly reported between the hours of 12:00md to 5:59pm with a total of 2,027 crashes for a 35%. On the other hand, hours between 6:00pm to 11:59pm reported 1,799 crashes for a 31%. Together, both time segments (12:00md – 11:59pm) comprise 66% of total unrestrained-related injury crashes.

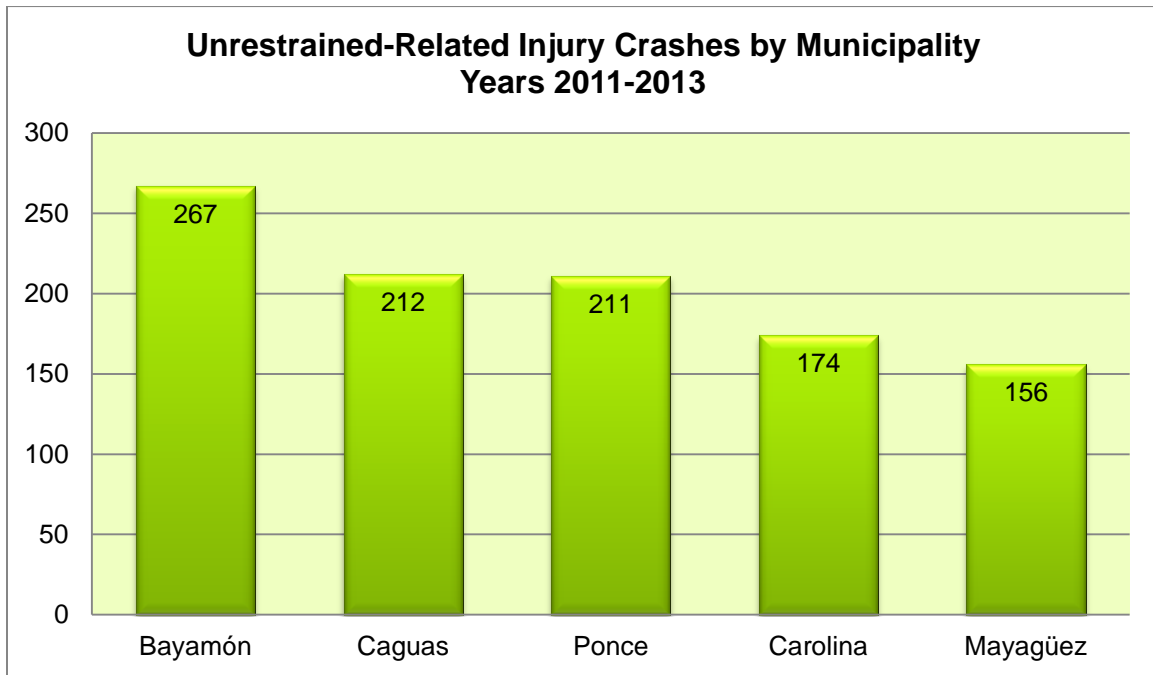


Figure 55: Unrestrained-Related Injury Crashes by Municipality Years 2011-2013

Unrestrained-related injury crashes by municipality for the three-year period of 2011 through 2013 mostly took place in the municipalities of Bayamón, Caguas, Ponce, Carolina and Mayagüez. These five municipalities reported a total of 1,020 crashes, with Bayamón reporting the most with a total of 267 for a 26%.

NON OCCUPANT

Pedestrian - Fatalities

Out of 1,071 total traffic fatalities reported during 2011-2013 period, 348, or 32%, of these were non-occupants, of which 310, or 89%, were pedestrians. In 2011, a total of 112 pedestrian fatalities were reported, in comparison with 2012 which reported 25 less fatalities. This represents a 22% reduction for this non-occupant group.

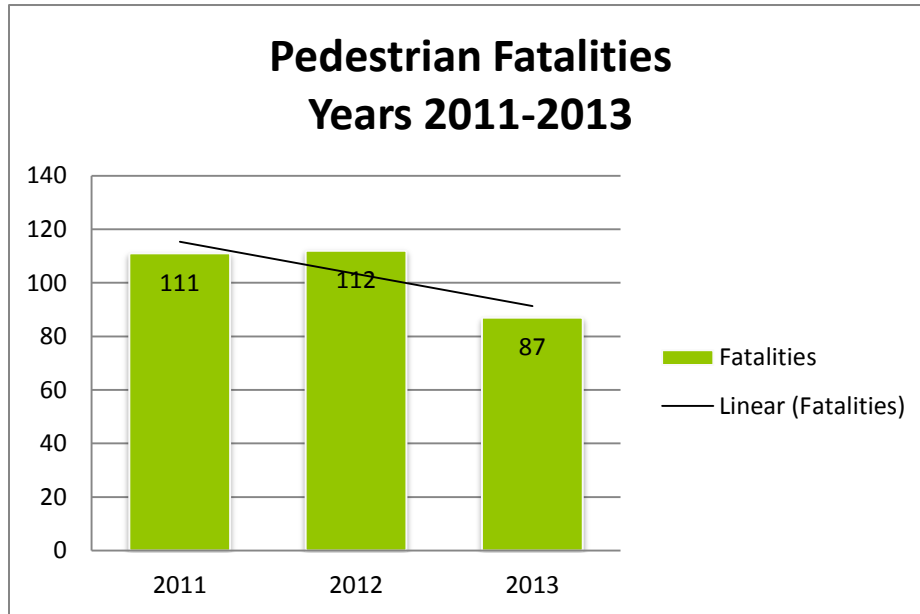


Figure 56: Pedestrian Fatalities Years 2011-2013

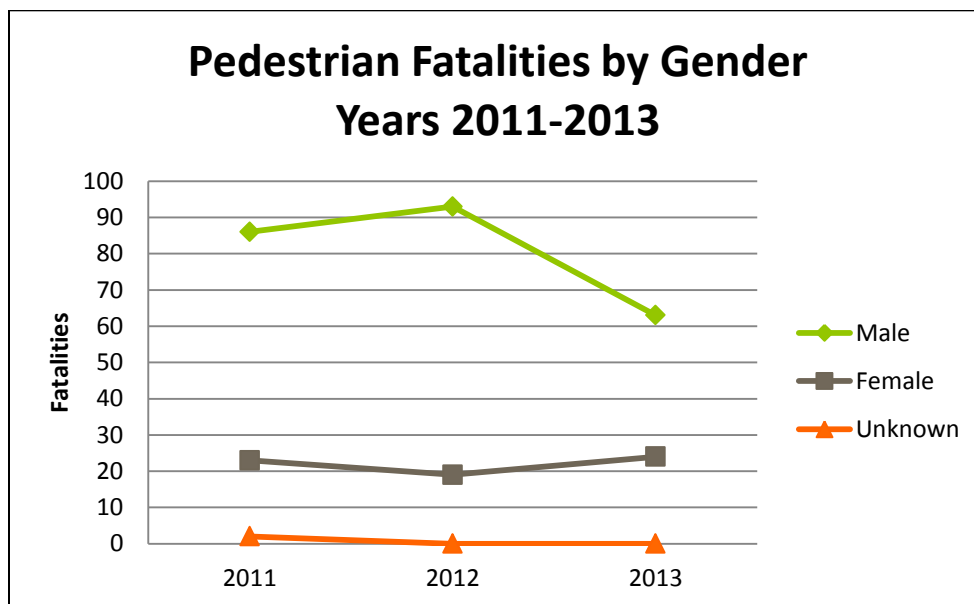


Figure 57: Pedestrian Fatalities by Gender Years 2011-2013

Pedestrian fatalities by gender during the period of 2011 through 2013 reported that 242, or 78%, of these were male and 66, or 21%, were female. The other 1% of fatalities is listed as unknown.

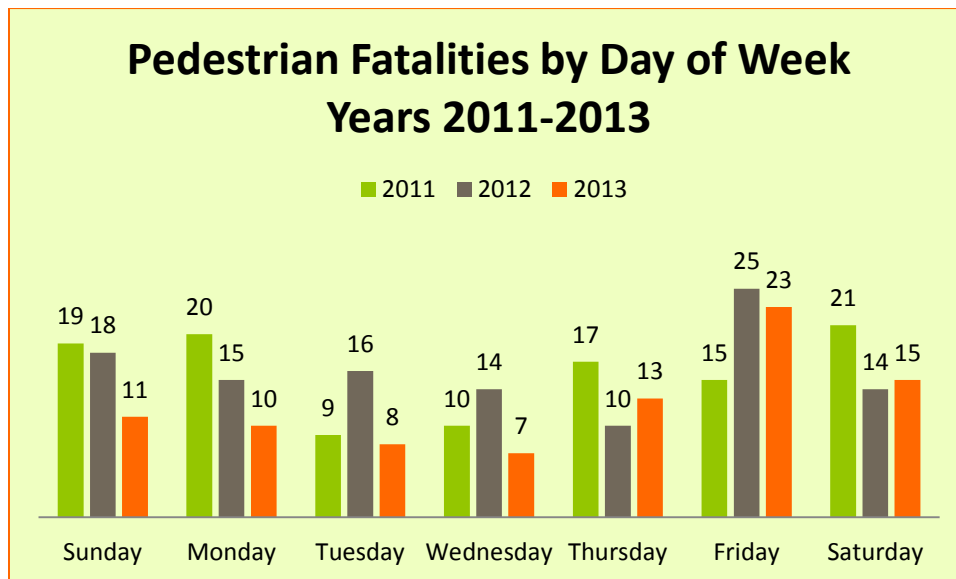


Figure 58: Pedestrian Fatalities by Day of Week Years 2011-2013

Pedestrian fatalities by day of week during the period of 2011 through 2013 identify Friday to be the day with the highest amount of reported fatalities with 63, or 20%. Wednesday is the day with the least amount of pedestrian fatalities, reporting 31, or 10%.

Day of Week	2011	2012	2013	Total
Sunday	19	18	11	48
Monday	20	15	10	45
Tuesday	9	16	8	33
Wednesday	10	14	7	31
Thursday	17	10	13	40
Friday	15	25	23	63
Saturday	21	14	15	50
Total	111	112	87	310

Figure 59: Pedestrian Fatalities by Day of week Years 2011-2013

During the 2011-2013 period, weekend days of Thursday through Sunday, a total of 201 pedestrian fatalities were reported. These accounted for 65% of total pedestrian fatalities. Monday through Wednesday reported a total of 109 fatalities, or 35%.

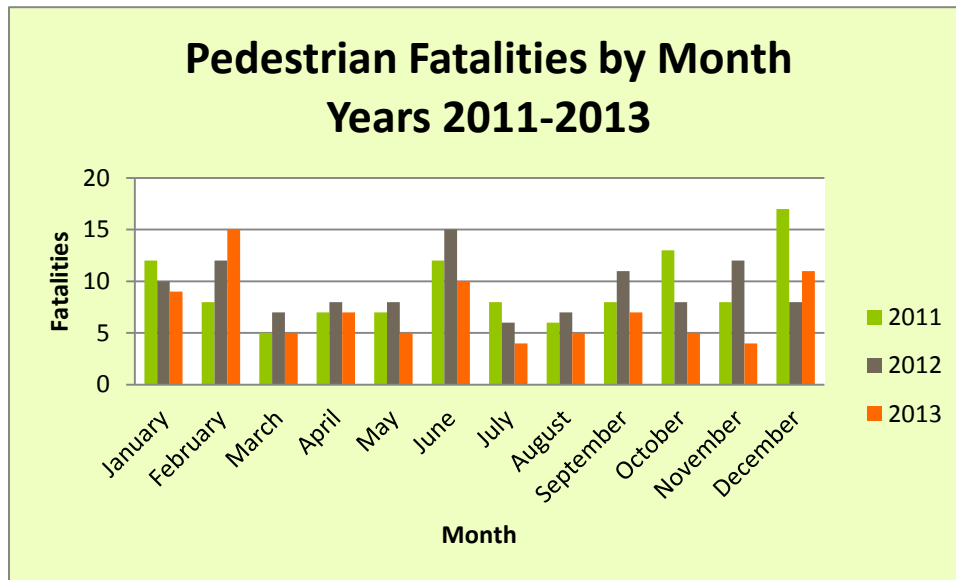


Figure 60: Pedestrian Fatalities by Month Years 2011-2013

Pedestrian fatalities by month during the period of 2011 through 2013 identify June with the highest amount of pedestrian fatalities with a total of 37, equivalent to 12% of total. March, July, and August are the months with the least amount of reported fatalities in this category, each accounting for 6%.

Month	2011	2012	2013	Total
January	12	10	9	31
February	8	12	15	35
March	5	7	5	17
April	7	8	7	22
May	7	8	5	20
June	12	15	10	37
July	8	6	4	18
August	6	7	5	18
September	8	11	7	26
October	13	8	5	26
November	8	12	4	24
December	17	8	11	36
Total	111	112	87	310

Figure 61: Pedestrian Fatalities Tendencies by Month Years 2011-2013

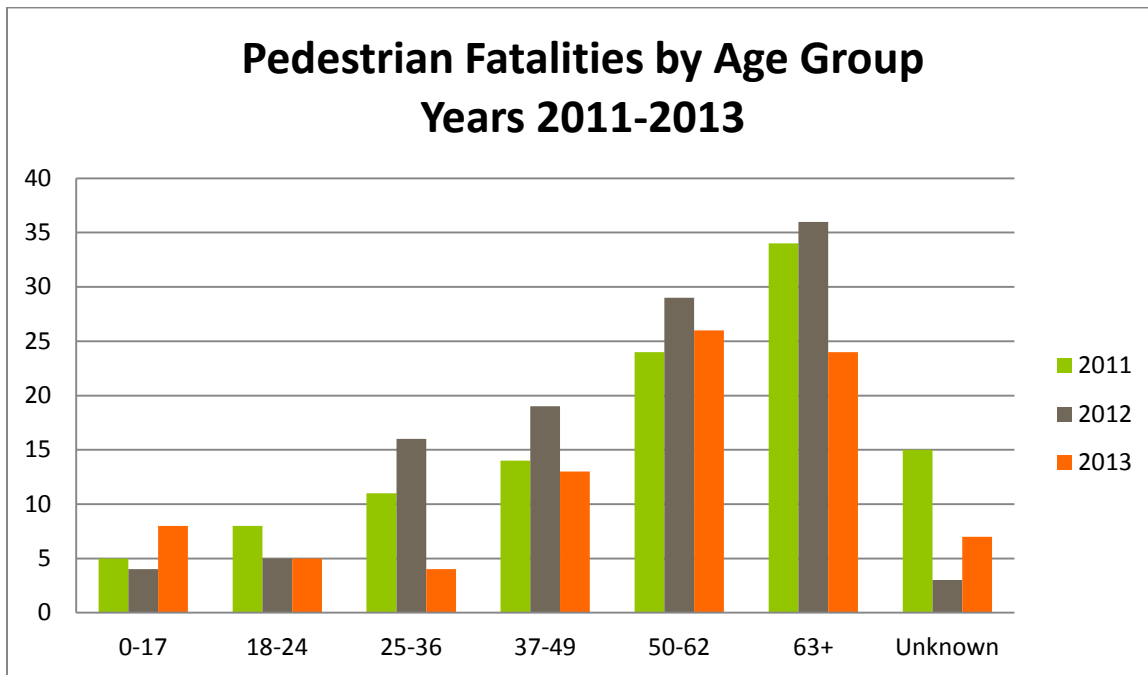


Figure 62: Pedestrian Fatalities by Age Group Years 2011-2013

Pedestrian fatalities by age group during the period of 2011 through 2013 illustrate that the group most at risk of a fatal crash is the 63+. This group reported a total of 94 fatalities, accounting for 30% of total. It is closely followed by another adult age group of 50-62 year of age, reporting a total of 79 fatalities, for a 25%. Age group with the least reported fatalities is the 0-17 group, with a total of 17 fatalities for a 5% of total pedestrian fatalities.

Group Age	2011	2012	2013	Total
0-17	5	4	8	17
18-24	8	5	5	18
25-36	11	16	4	31
37-49	14	19	13	46
50-62	24	29	26	79
63+	34	36	24	94
Unknown	15	3	7	25
Total	111	112	87	310

Figure 63: Pedestrian Fatalities Tendencies by Month Years 2011-2013

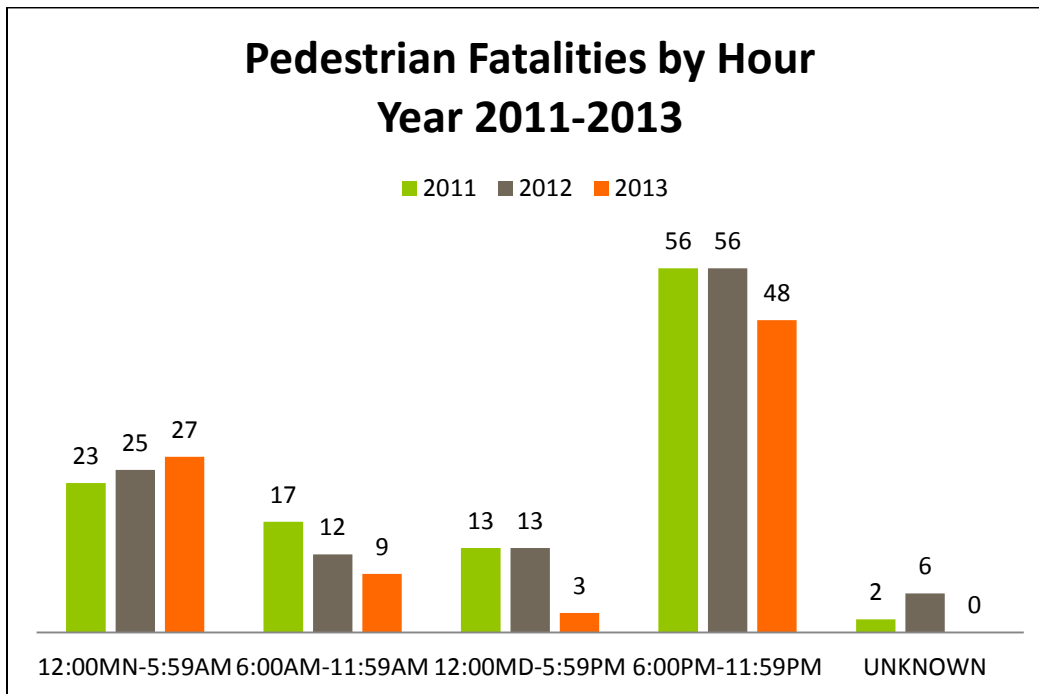


Figure 64: Pedestrian Fatalities by Hour Years 2011-2013

Pedestrian fatalities by time of day for the 2011 through 2013 period, reported the highest amount of these fatalities during the 6:00 to 11:59 pm time period with 160 fatalities, comprising 52% of total. It is followed by the 12:00 to 5:59 am period with 38, or a 24% of total fatalities. Within the 310 pedestrian fatalities, 189 of these occurred during the nighttime, while 113 occurred during the daytime. A total of 8 or a 3% were classified as unknown.

It should be noted that during 2011-2013, 3 people on wheelchairs or some other type of assisting equipment were among the fatalities. These were 2 males and 1 female. These were fatally injured on a Friday; 2 of them during the month of March and 1 in May; 1 between the hours of 12:00 – 5:59 pm and 2 between 6:00 – 11:59 pm. Of these fatalities, 2 were reported in the municipality of San Juan and 1 in Luquillo.

Pedestrian Fatalities By Municipality Years 2011-2013		
Ranking	Municipality	Total Fatalities
1	San Juan	41
2	Bayamón	19
3	Carolina	16
4	Aguadilla	14
5	Arecibo	14

Figure 65: Pedestrian Fatalities By Municipality Years 2011-2013

Pedestrian fatalities by municipality during the period of 2011 through 2013 identifies 5 municipalities with the highest number of pedestrian fatalities reported. Of these municipalities, 3 are among those with highest number of residents and are located in the great metropolitan area, like San Juan which reported 41 fatalities or a 13% of fatalities total, Bayamón with 19 or an 6%, and Carolina with 16 or a 5%. Arecibo, located in the northern region of the island, and Agudaila, on the western region, both reported 14 fatalities for a 5% of total fatalities each.

Pedestrian Injury Crashes

CARE system provided data for 2011, 2012 and 2013 periods, this three-year period accounted for a total of 5,540 injury crashes involving pedestrians. This total comprises 8% of total injury crashes of 72,100.

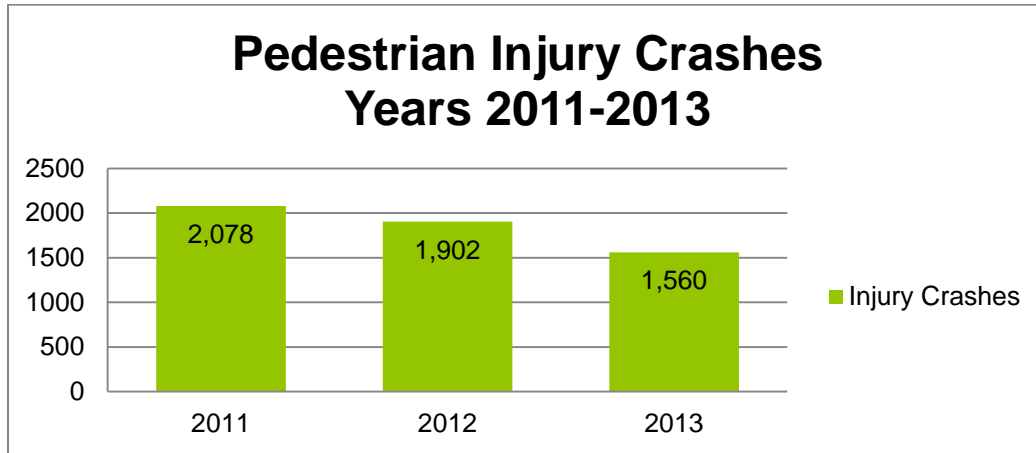


Figure 66: Pedestrian Injury Crashes Years 2011-2013

Year 2012 reports a reduction of 176 crashes for a 8% reduction from 2011. However, year 2013 reported a 342 reduction for a 18%.

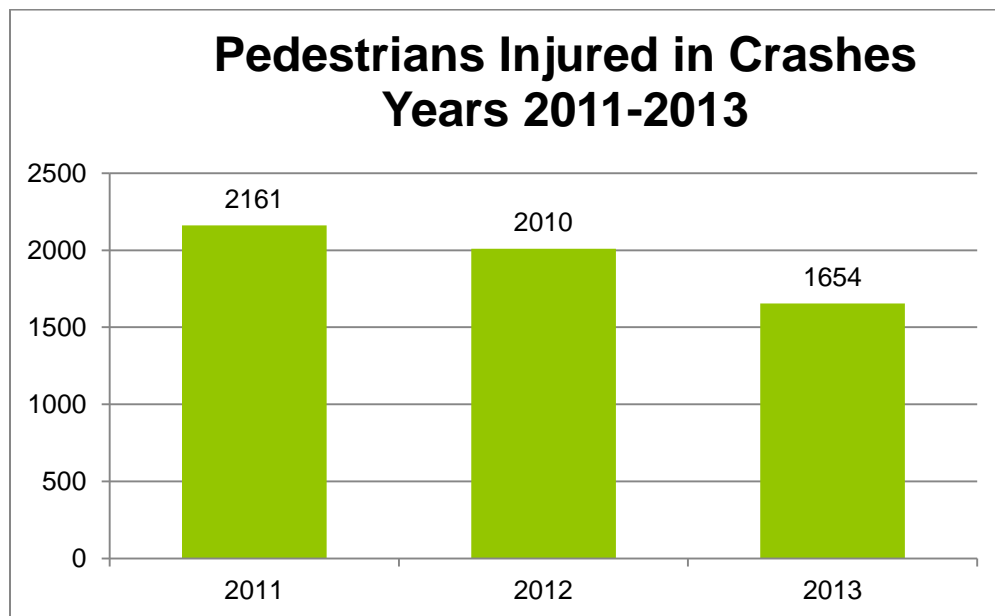


Figure 67: Pedestrian Injured in Crashes Years 2011-2013

Pedestrians injured in crashes for the three-year period of 2011 through 2013 illustrate a reduction of 507, or a 9%. For this three-year period a total of 5,825 pedestrians resulted injured in a traffic crash, with most being reported during 2011.

Pedestrian Injury Crashes by Month Years 2011-2013

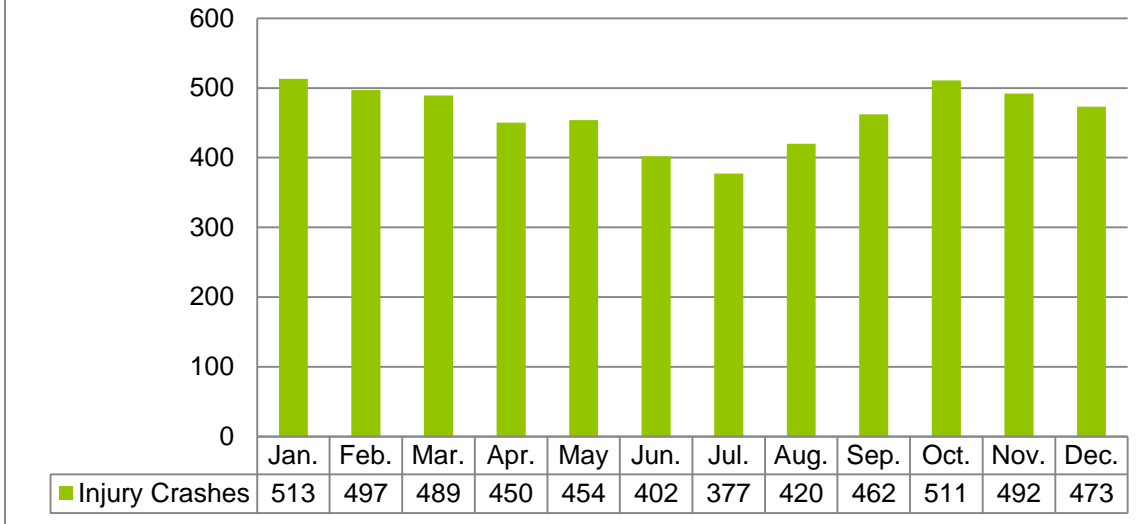


Figure 68: Pedestrian Injury Crashes by Month Years 2011-2013

Pedestrian injury crashes by month for the three-year period of 2011 through 2013 indicate January is the month with most of these crashes with 513, or a 9%. It is closely followed by October with 511 crashes and February with 497. The month reporting the least amount of pedestrian injury crashes is July with 377, comprising 7% of total.

Pedestrian Injury Crashes by Day of Week Years 2011-2013

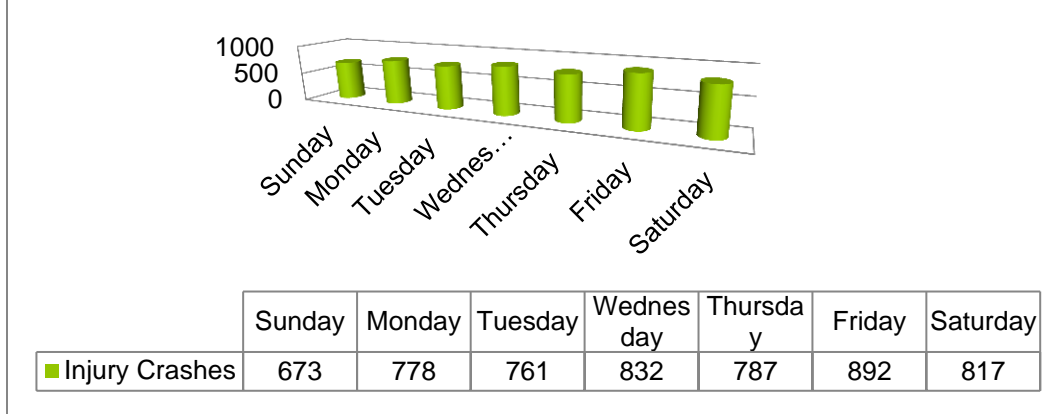


Figure 69: Pedestrian Injury Crashes by Day of Week Years 2011-2013

Pedestrian injury crashes by day of week for the three-year period of 2011 through 2013 indicate most of these took place on a Friday reporting a total of 892 injury crashes, or a 16%. Second highest is Wednesday with 832, or 15%. The day reporting the least pedestrian injury crashes is Sunday with a total of 673, or 12%. Weekend days (Friday, Saturday and Sunday) comprise 43% of total pedestrian injury crashes.

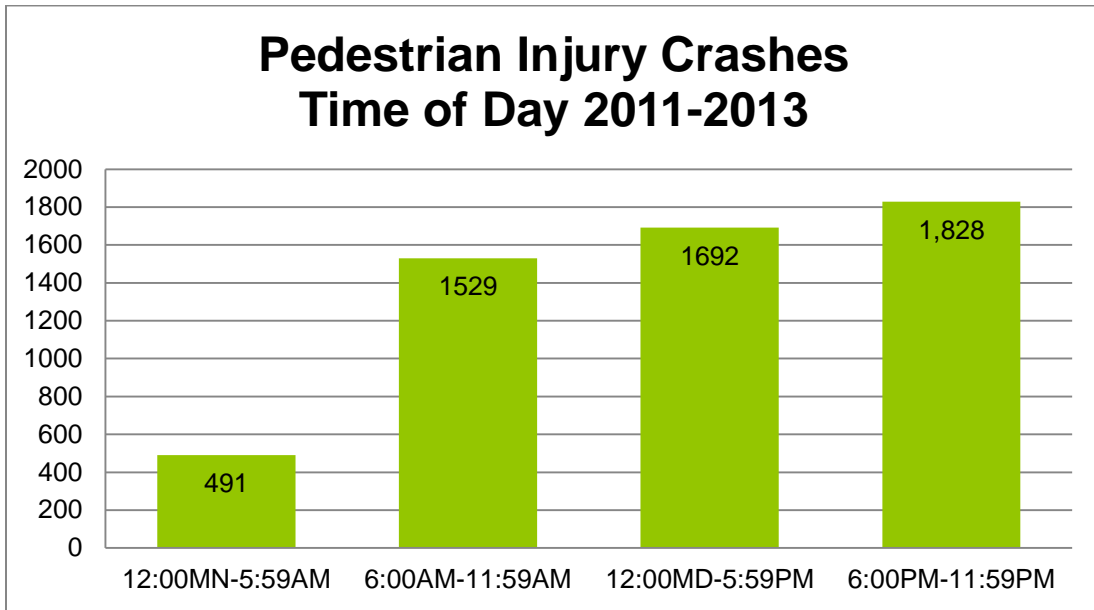


Figure 70: Pedestrian Injury Crashes Time of Day 2011-2013

Pedestrian injury crashes by time of day for the three-year period of 2011 through 2013 demonstrate hours between 6:00pm to 11:59pm reported most of these crashes with 1,828 for a 33%. Day time hours between 6:00am and 5:59 pm reported a total 3,221; comprising 59% of total pedestrian injury crashes.

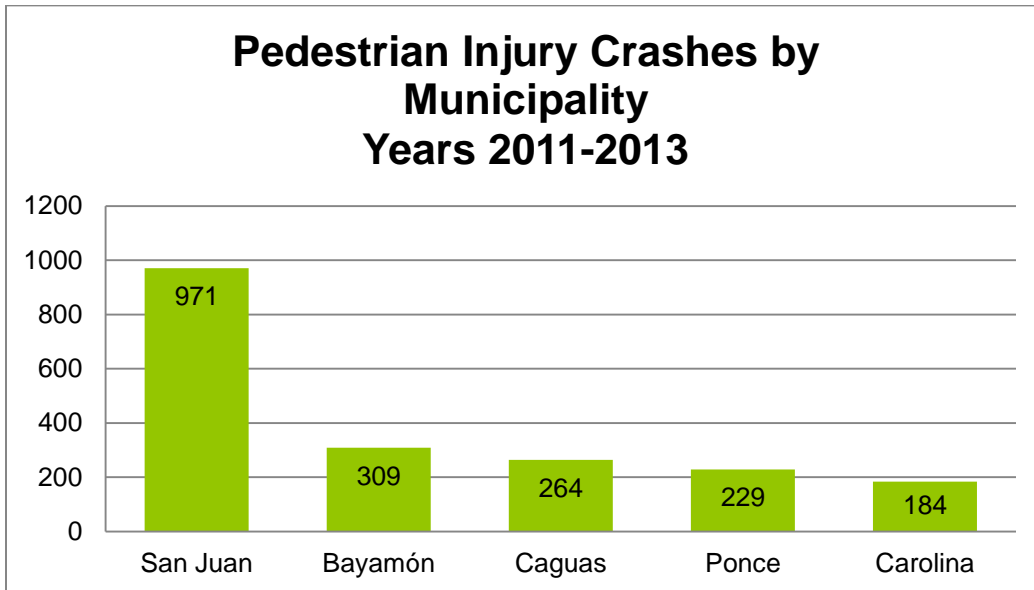


Figure 71: Pedestrian Injury Crashes by Municipality Years 2011-2013

Most pedestrian injury crashes for the three-year period of 2011 through 2013 took place in the municipalities of San Juan, Bayamón, Caguas, Ponce and Carolina. Crashes in these five municipalities comprised 35% of total. San Juan was the municipality with most of these crashes, comprising 18% of the 5,540 total pedestrian injury crashes.

Cyclist – Fatalities

Data of cyclist fatalities provided by FARS for the 2011-2013 period illustrates that cyclist fatalities accounted for 3% of total traffic fatalities. They also accounted for 11% of total non-occupant fatalities. However, year 2013 shows a reduction of cyclist fatalities of 31%, when compared to 2012.



Figure 72: Pedestrian Fatalities Years 2008-2012

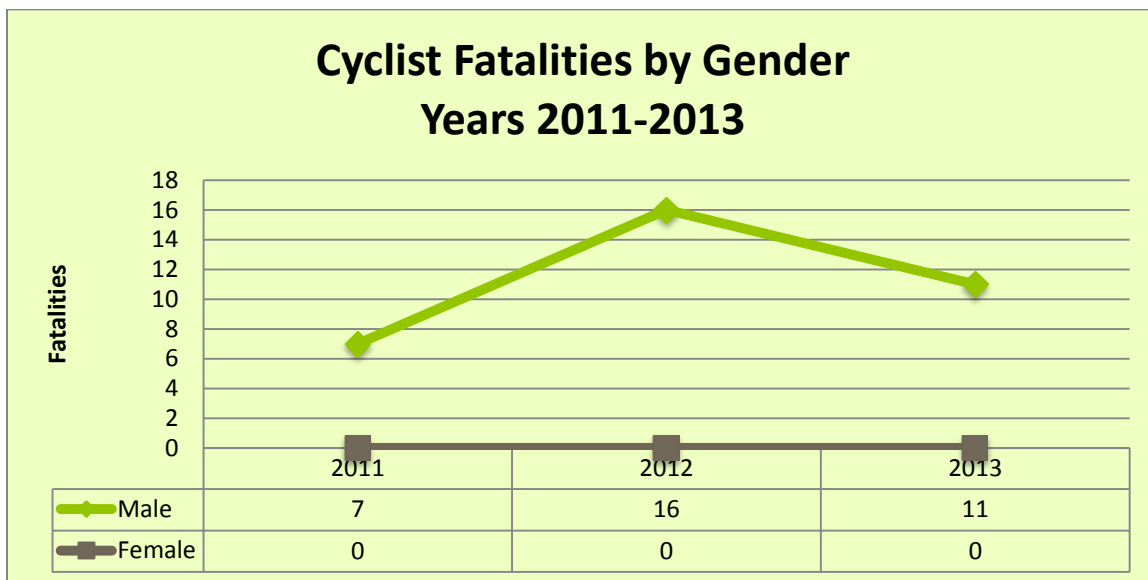


Figure 73: Cyclist Fatalities by Gender Years 2011-2013

Cyclist fatalities by gender for period of 2011 through 2013 established that 77% of total fatalities were male.

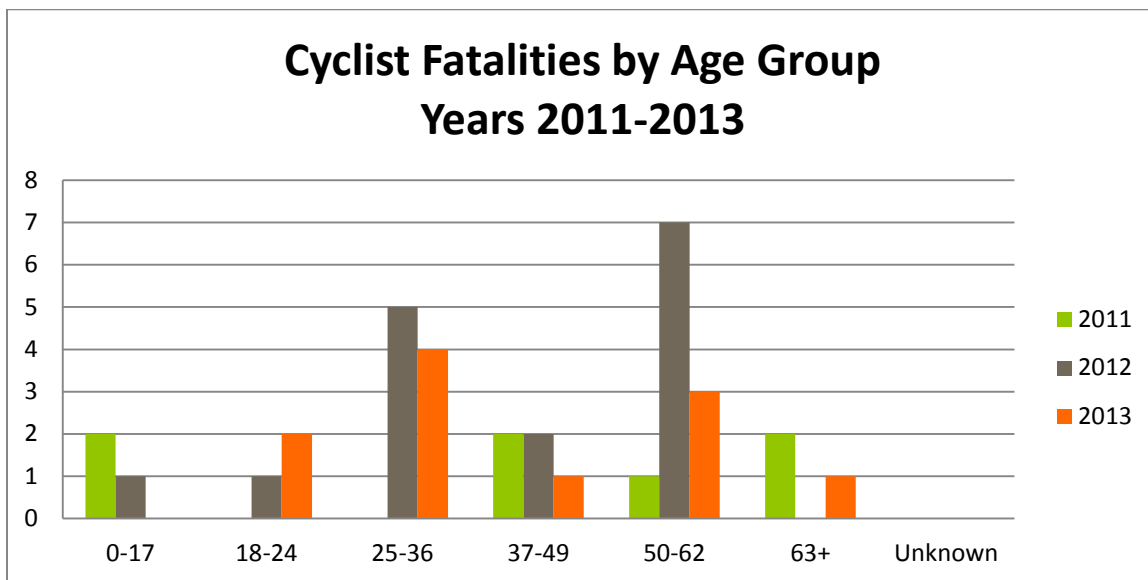


Figure 74: Cyclist Fatalities by Age Group Years 2011-2013

Age Group	2011	2012	2013	Total
0-17	2	1	0	3
18-24	0	1	2	3
25-36	0	5	4	9
37-49	2	2	1	5
50-62	1	7	3	11
63+	2	0	1	3
Unknown	0	0	0	0
Total	7	16	11	34

Figure 75: Cyclist Fatalities by Age Group Years 2011-2013

Cyclist fatalities by age group for this three-year period reported cyclists between the ages of 50-62 at highest risk of a fatal crash, reporting 11 fatalities for a 32% of total. Of these, 7 were reported during year 2012. It is followed by the 26-36 years age group with 9 fatalities, or 26%, and the 37-49 years age group with 15%. The age groups of 0-17, 18-24, and 63+ reported 3 fatalities each, this places them at a lower risk. The cyclist with most years of age was 74.

Cyclist Fatalities by Day of Week Years 2011-2013

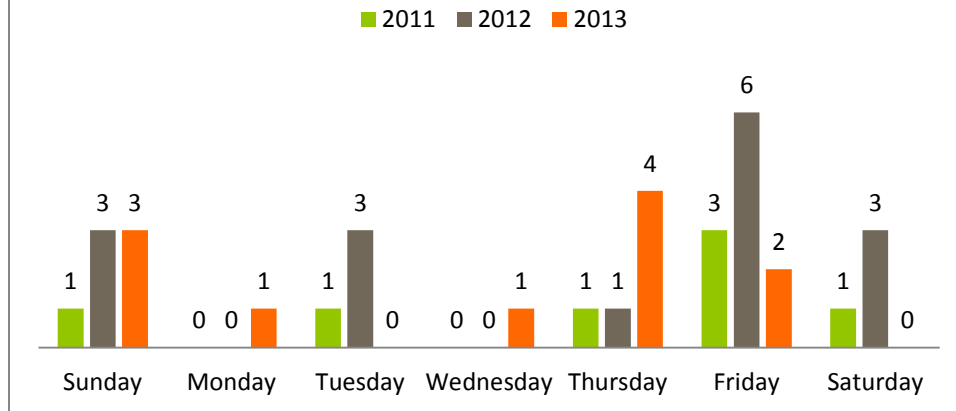


Figure 76: Cyclist Fatalities by Day of Week Years 2011-2013

Day of the Week	2011	2012	2013	Total
Sunday	1	3	3	7
Monday	0	0	1	1
Tuesday	1	3	0	4
Wednesday	1	0	1	2
Thursday	0	1	4	5
Friday	3	6	2	11
Saturday	1	3	0	4
Total	7	16	11	34

Figure 77: Cyclist Fatalities Day of the Week Distribution Chart Years 2011-2013

Cyclist fatalities by day of week during the period of 2011 through 2013 reported the highest amount of cyclist fatalities on Friday with 11 of the total of 34, accounting for 32% of total. The day with the least amount is Monday with 1 fatality.

During weekend days of Thursday through Sunday, 27 fatalities were reported. These accounted for 79% of total fatalities reported during this three-year period. The remaining 21% of fatalities occurred between Monday and Wednesday.

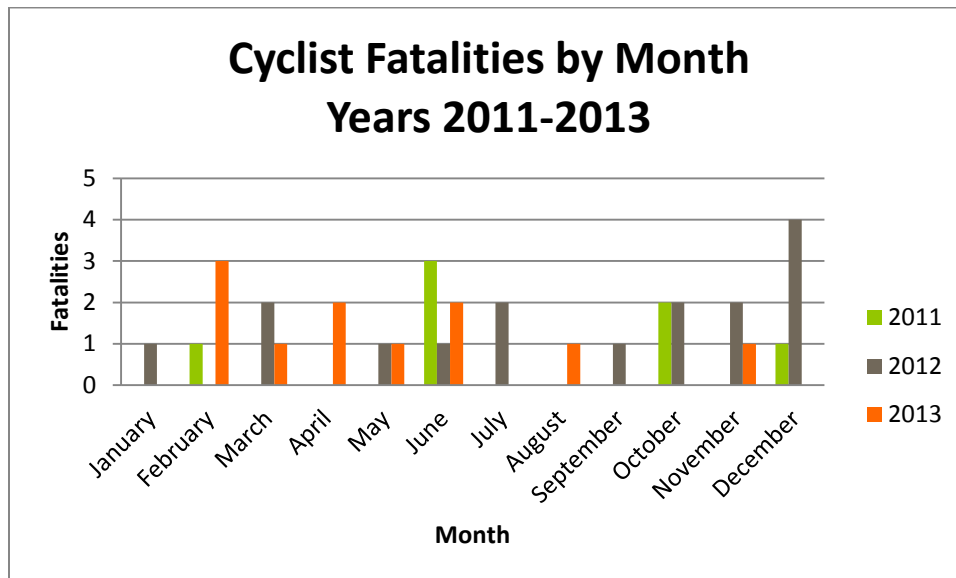


Figure 78 Cyclist Fatalities by Month Years 2011-2013

Month	2011	2012	2013	Total
January	0	1	0	1
February	1	0	3	4
March	0	2	1	3
April	0	0	2	2
May	0	1	1	2
June	3	1	2	6
July	0	2	0	2
August	0	0	1	1
September	0	1	0	1
October	2	2	0	4
November	0	2	1	3
December	1	4	0	5
Total	7	16	11	34

Figure 79 Cyclist Fatalities by Month Distribution Chart Years 2011-2013

Cyclist fatalities by month during the the period of 2011 through 2013 identified June as the month with the highest number of cyclist fatalities reporting 6, or 18% of total. The months with the highest number of reported fatalities are during the school recess periods, summer vacations, as well as in Christmas time.

January, August, and September reported 1 fatality each, which makes them the months with the least amount of fatalities during the 2011-2013 period.

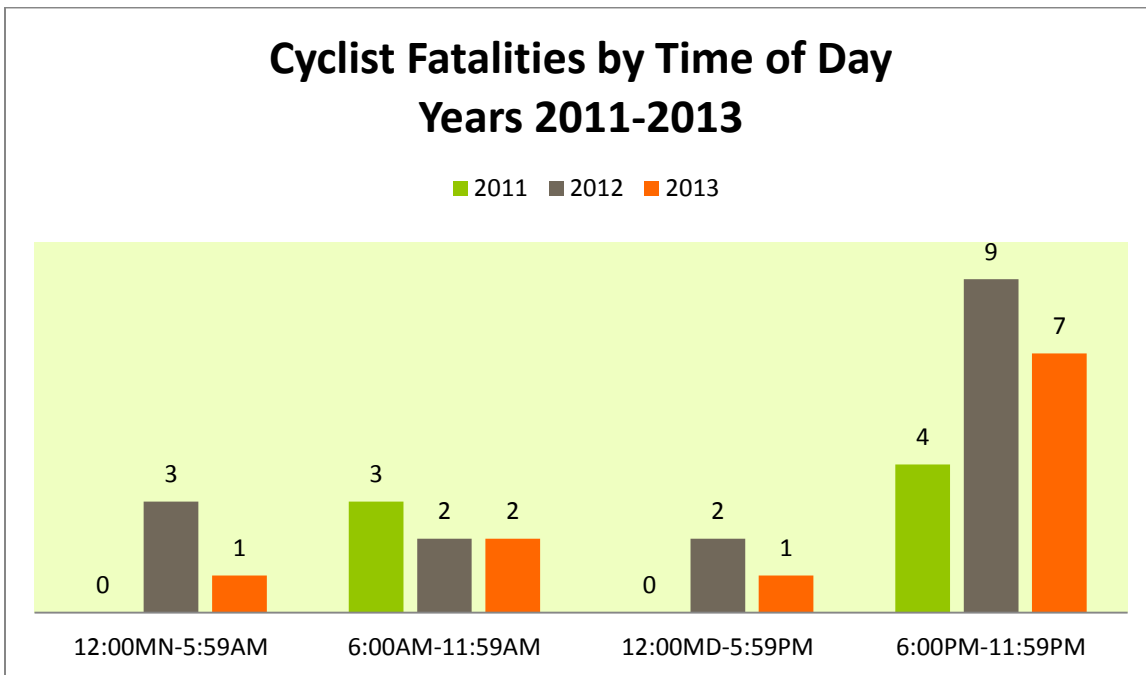


Figure 80: Cyclist Fatalities by Group Hour Years 2011-2013

Cyclist fatalities by time of day for the period of 2011 through 2013 illustrate nighttime hours between 6:00pm and 11:59pm with most fatalities with a total of 20, comprising a 59%. Time period with second highest number of fatalities is early morning hours between 6:00am and 11:59am with 7 in total.

Cyclist Fatalities By Municipality Years 2011-2013		
Ranking	Municipality	Total Fatalities
1	San Juan	4
2	Caguas	3
3	Aguadilla	2
4	Gurabo	2
5	Añasco	1

Figure 81: Cyclist Fatalities By Municipalities Years 2011-2013

Cyclist fatalities by municipality during the period of 2011 through 2013 identified the municipalities of San Juan, Caguas, Aguadilla, Gurabo, and Añasco as the ones with the highest number of reported cyclist fatalities.

Cyclist -Injury Crashes

According to data provided by CARE system for 2011, 2012 and 2013 periods, there were a total of 137 injury crashes involving cyclists.

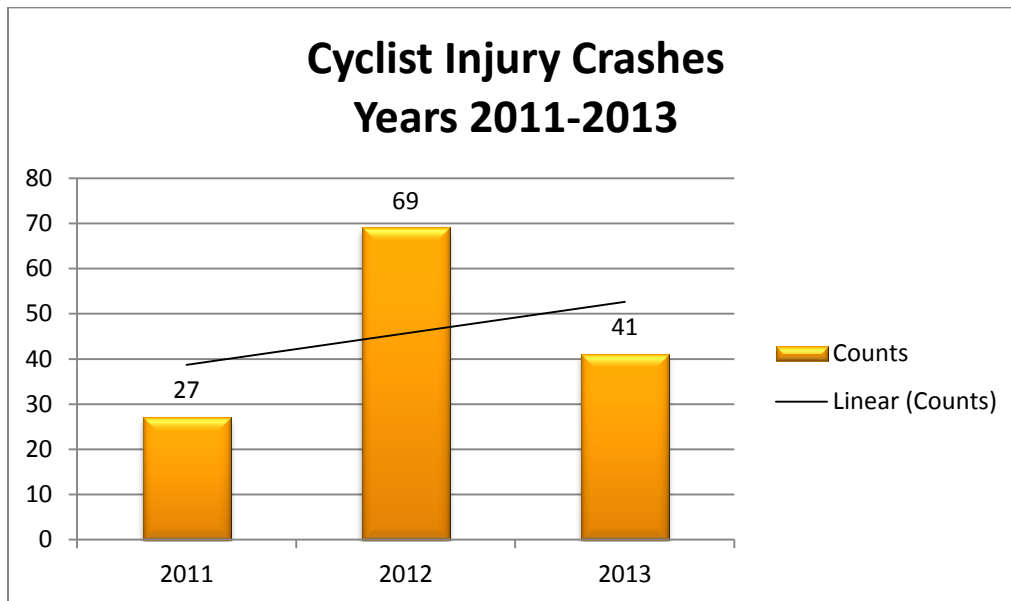


Figure 82: Cyclist Injury Crashes Years 2011-2013

Cyclist injury crashes during 2011 through 2013 illustrates most crashes were reported on 2012, this year comprises half of total with a 50%. However, 2013 reported a reduction of 41% when compared to 2012. Still, 2011 is the year with the least cyclist injury crashes with a total of 27, comprising 20% of total.

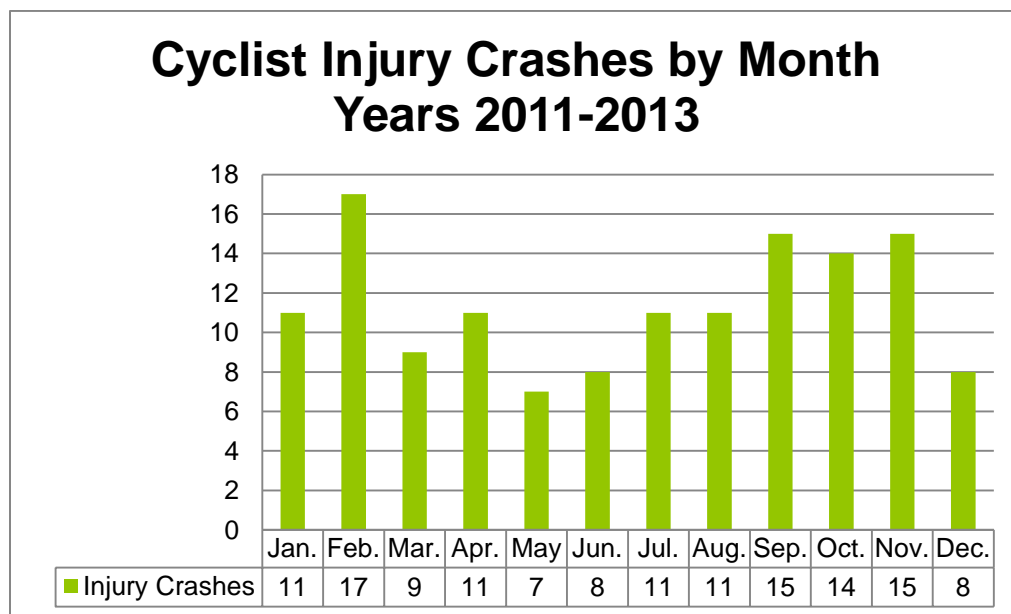


Figure 83: Cyclist Injury Crashes by Month Years 2011-2013

Cyclist injury crashes by month during 2011 through 2013 identifies February as the month with the most cyclist injury crashes, reporting 17 for a 12% of total. The month of May has the least, reporting 7 crashes or a 5% percent of total. April, July and August reported the same amount of 11 crashes, for an 8% percent each.

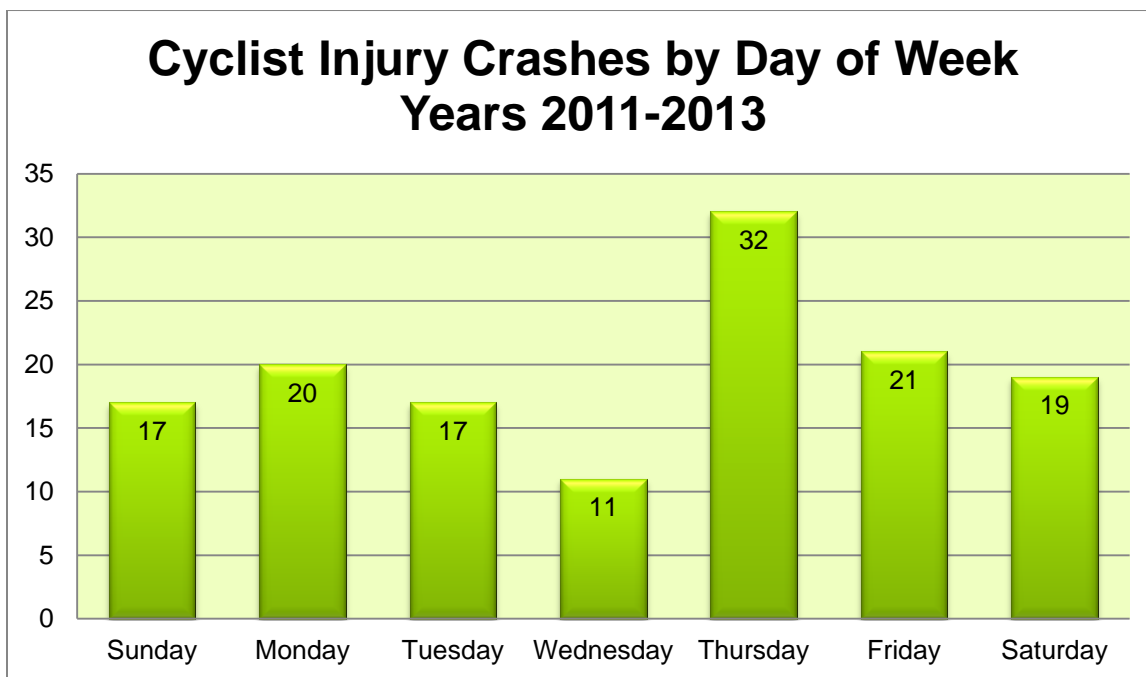


Figure 84: Cyclist Injury Crashes by Day of Week Years 2011-2013

Cyclist injury crashes by day of week during 2011 through 2013 illustrates how most of these crashes took place on Thursday with a total of 32 for a 23%, while Wednesday reported the least with a total of 11 for an 8%. Weekend days, Friday through Sunday, altogether comprised 42% of crashes.

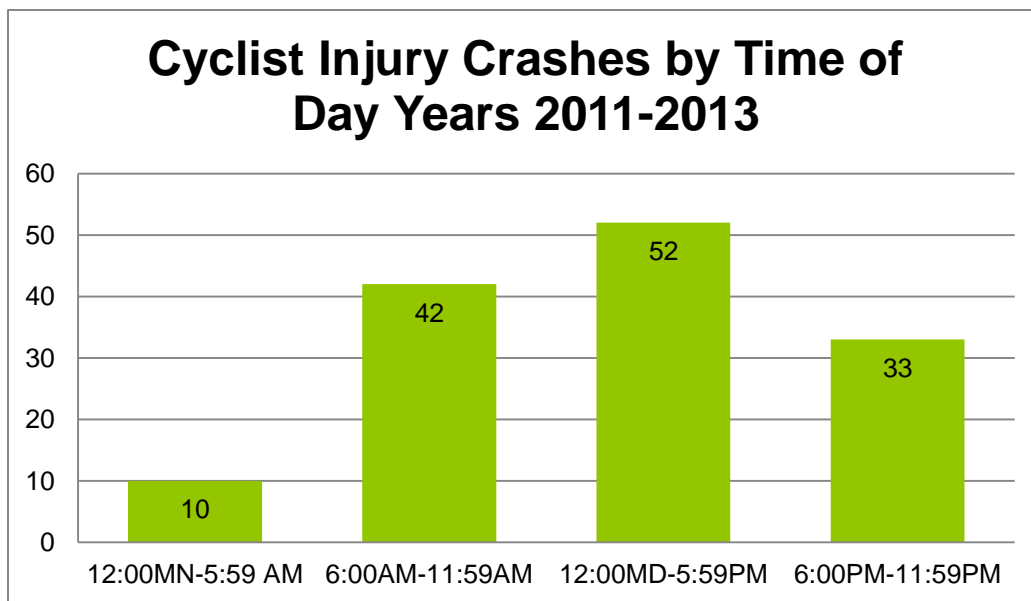


Figure 85: Cyclist Injury Crashes by Time of Day Years 2011-2013

Cyclist injury crashes by time of day during 2011 through 2013 illustrate most crashes taking place between the hours of 12:00md and 5:59pm, with a total of 52 for a 37%. Day time hours between 6:00am and 5:59pm comprised 69% of total crashes. Hours between midnight and 5:59am reported the least crashes, comprising just a 7% of total.

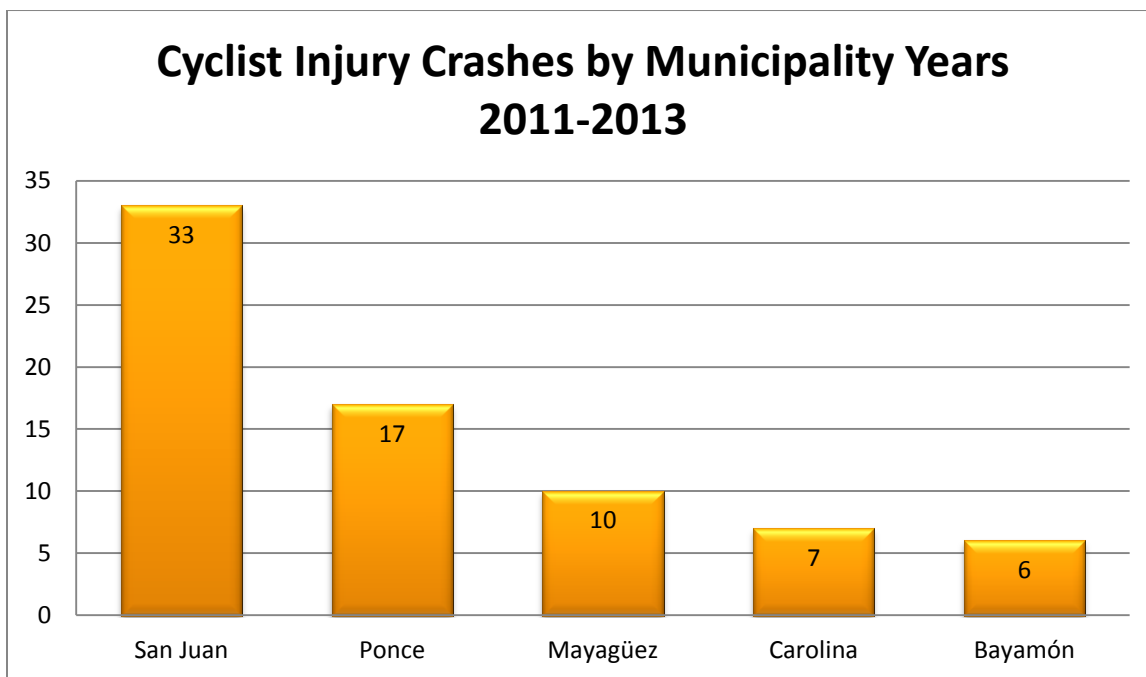


Figure 86: Cyclist Injury Crashes by Municipality Years 2011-2013

Cyclist injury crashes by municipality during 2011 through 2013 clearly illustrate the great majority of these crashes were reported in San Juan. This municipality comprised 24 of total, reporting 33 crashes. It is followed by Ponce, which reported a total of 177 crashes for a 12% of total. Municipalities of San Juan, Carolina and Bayamón belong to the great metropolitan area of Puerto Rico; altogether, these municipalities comprised 34% of total cyclist injury crashes.

APPENDIX

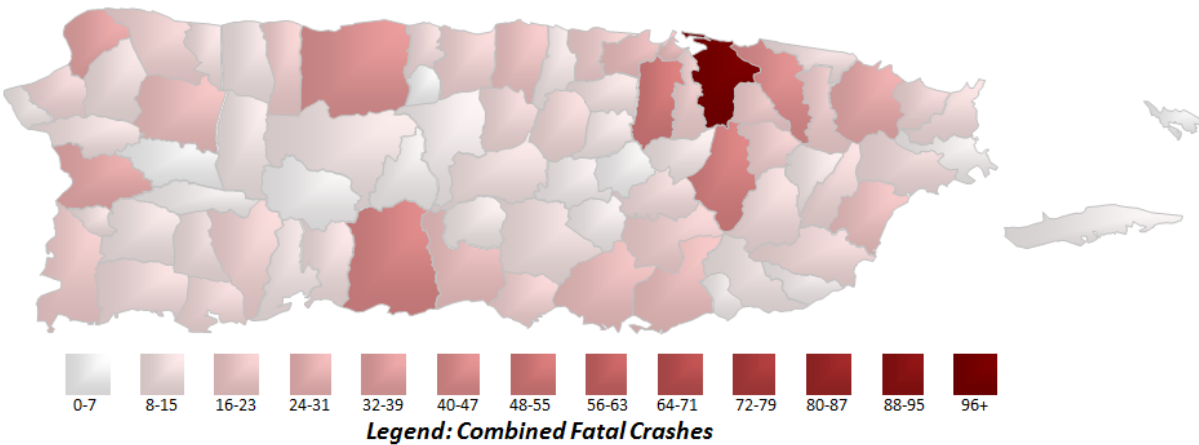
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GIS Heat Maps by Municipality

Combined FATAL Crashes

Distribution by Municipality

2011, 2012 & 2013



Combined INJURY Crashes

Distribution by Municipality

2011, 2012 & 2013

