

# FLORIDA MOTORCYCLE STRATEGIC SAFETY PLAN

Florida Department of Transportation



June 2016

# **Florida Motorcycle Strategic Safety Plan**

Florida Department of Transportation

June 2016



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# 1.0 Introduction

## 1.1 FLORIDA STRATEGIC HIGHWAY SAFETY PLAN

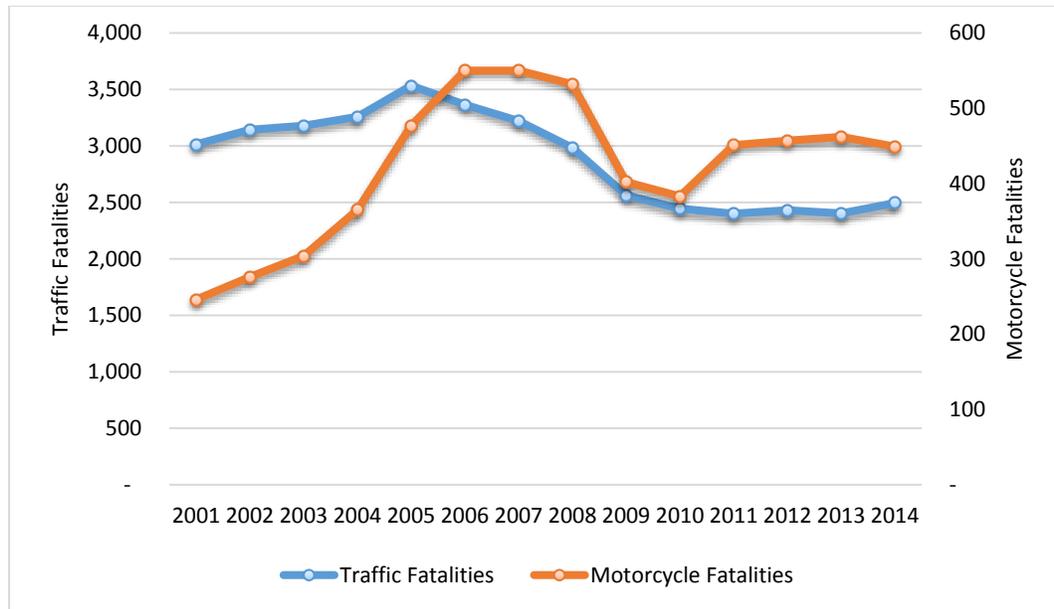
The Florida Strategic Highway Safety Plan (SHSP) is designed to improve road safety for residents and visitors. The SHSP identifies strategic safety priorities in both public and private agencies and organizations at the national, state, regional, and local levels. It addresses motorcycle safety issues in the Vulnerable Road Users emphasis area in which objectives and strategies are identified to reduce the number of motorcycle fatalities, injuries, and crashes. The Motorcycle Safety Strategic Plan (MSSP) supplements and expands on the SHSP by providing more detailed strategies and action steps to improve motorcycle safety in Florida.

## 1.2 FLORIDA'S CHALLENGE

Motorcycle is a mode of transportation that is more vulnerable to serious injuries and fatalities compared to other motor vehicles such as cars and trucks. Florida's sunny weather, beautiful beaches, and scenic highways make it a popular place for motorcycle enthusiasts, and the state is host to popular motorcycle rallies such as Biketoberfest and Daytona Bike Week. During the past decade, Florida has observed an unusual increase in serious motorcycle injuries and fatalities as well as a continued increase in motorcycle registrations.

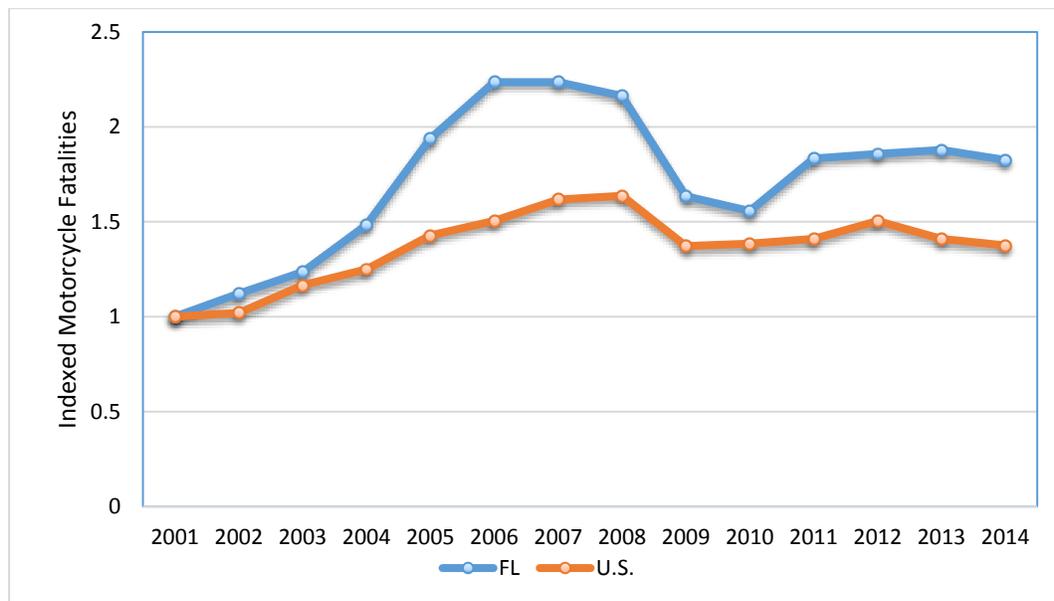
As of July 2014, Florida had 1,143,549 drivers with motorcycle endorsements and 601,253 registered motorcycles, representing about 3.5% of Florida registered vehicles (not including mobile homes and vessels). Although it is difficult to measure the actual usage of motorcycles in Florida due to limitations in counting them with traffic detectors, it is estimated that motorcycles represent less than 1% of traffic on Florida's roadways based on Florida vehicle classification information. However, motorcycle fatalities represented 18% of Florida traffic fatalities in 2014.

Figure 1-1 shows the trend of motorcyclist fatalities in Florida between 2001 and 2014. Although the number of traffic fatalities in Florida has decreased significantly, the number of motorcycle fatalities has doubled during the same period, peaking between 2006 and 2008. With the inception of Florida's statewide comprehensive motorcycle safety program, the Florida Motorcycle Safety Coalition (MSC) (dubbed RideSmartFlorida), several positive changes have occurred, including a 25% reduction in motorcyclist fatalities in 2009 and a 7% reduction in motorcycle fatalities in 2010. However, this trend reversed between 2010 and 2013, as the number of both fatalities and injuries increased each year. In 2014, the number of fatalities dropped by 3%; however, the number of injuries continued to increase.



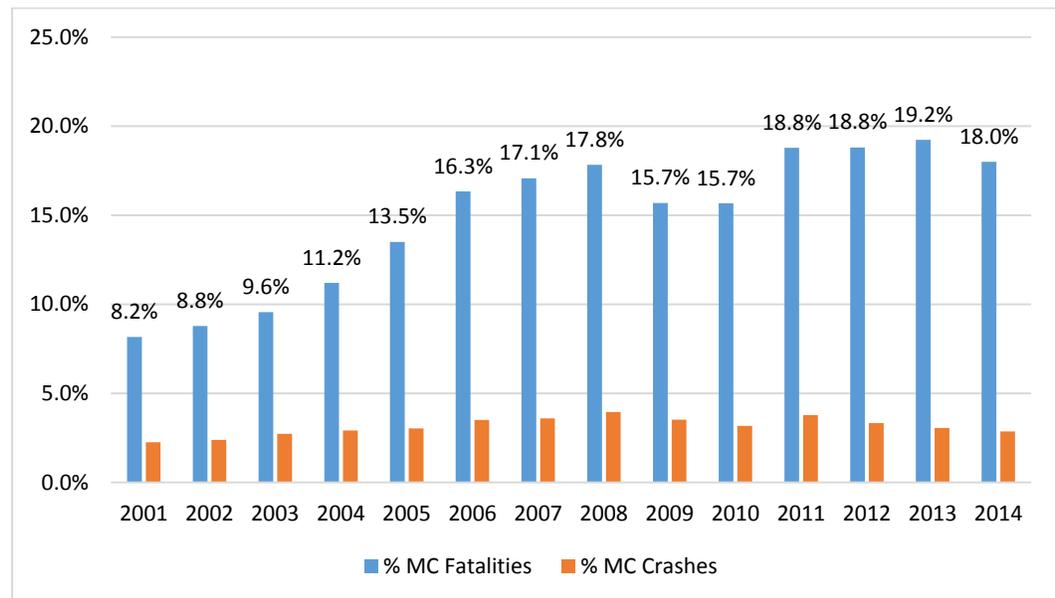
**Figure 1-1 Motorcycle Fatalities vs. Traffic Fatalities (2001–2014)**

Figure 1-2 illustrates indexed motorcycle fatalities in Florida and the U.S., showing the percent increase and decrease over time based on the number of motorcycle fatalities in 2001. Although the general trend of change is somewhat similar, it is notable that Florida has experienced much more significant variation and a greater increase during the past decade.



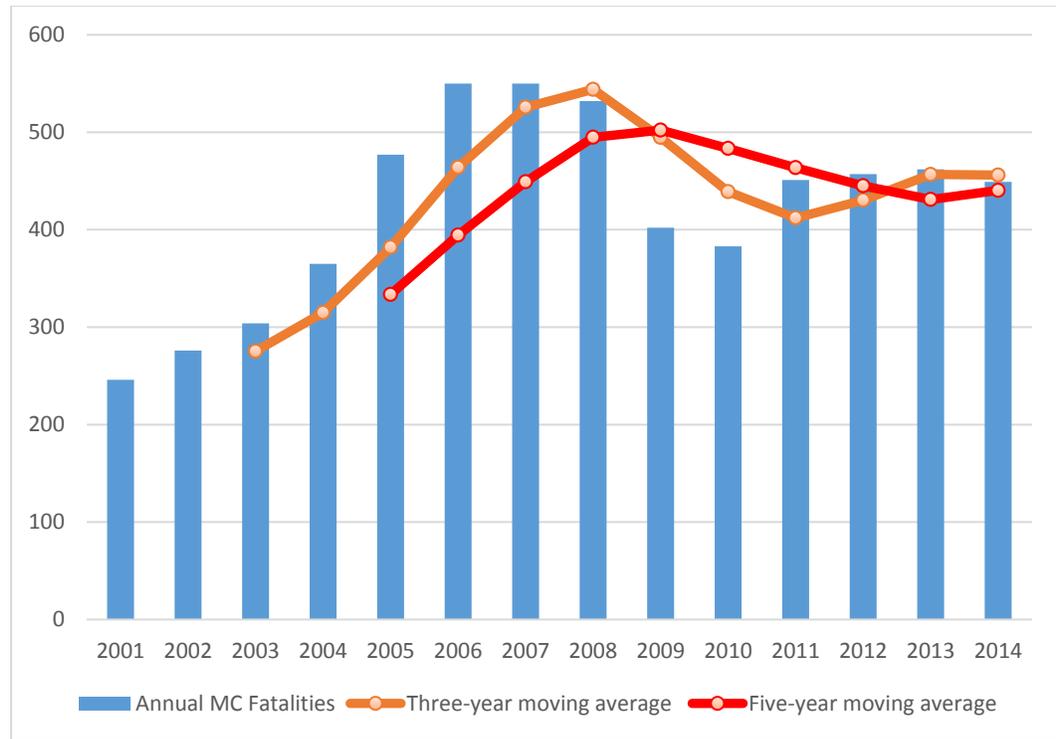
**Figure 1-2 Indexed Motorcycle Fatalities in Florida and U.S. (2001 Fatalities = 1)**

Figure 1-3 shows the percentage of traffic fatalities that involve motorcycles for the period from 2001 to 2014. In 2001, motorcycle fatalities accounted for 8.2% of all traffic fatalities in the state, but by 2014 the percentage had increased to approximately 18%. Although this can be partially associated with the increase in motorcycle registrations in Florida, the proportion of motorcycle crashes in Florida traffic crashes experienced almost no change during the same period. Motorcycle crashes represented 2.3% of traffic crashes in 2001 and 2.9% in 2014. This trend is also related to the fatality rates of other vehicles such as passenger cars and light trucks, which significantly decreased in the past decade.



**Figure 1-3 Proportion of Motorcycle Fatalities and Crashes in Florida Traffic Fatalities and Crashes**

Figure 1-4 shows the three-year and five-year moving average of motorcycle fatalities in Florida. Florida experienced a slow but steady increasing trend of motorcyclist fatalities, injuries, and crashes between 2001 and 2014, indicating an urgent need to continue to implement effective strategies to improve motorcycle safety in Florida. As it is well known that the causes of motorcycle crashes cannot be attributed to any single source and are the result of combination of elements, comprehensive safety approaches and campaigns are needed to address the many different contributing causes.



**Figure 1-4 Motorcycle Fatalities in Florida (2001–2014)**

### Hospitalizations and Emergency Department Visits<sup>1</sup>

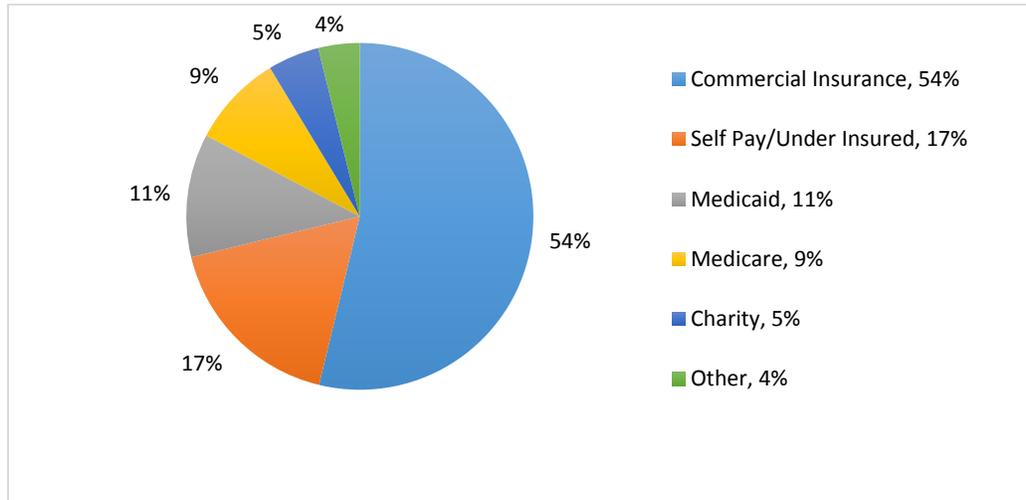
Motorcycle crashes and injuries pose a serious concern because of the health, economic, and social issues they raise. According to a 2014 motorcycle safety report from the Florida Department of Health (DOH), total hospital charges for motorcyclists treated in Florida emergency departments (EDs) or hospitals who were injured in a traffic crash was \$583,507,391.

Motorcycle traffic crashes often result in fatal or serious injuries requiring inpatient or outpatient hospital care and treatment. In 2014, the median hospital charge for motorcyclists treated and released from a Florida ED for traffic crash injuries was \$4,702, and the median hospital charge for motorcyclists admitted to a Florida hospital for treatment of traffic crash injuries was \$77,529.<sup>2</sup> The total hospital charges for motorcyclists treated in Florida EDs and hospitals for traffic crash injuries was nearly \$600 million. Figure 1-5 shows reimbursement sources

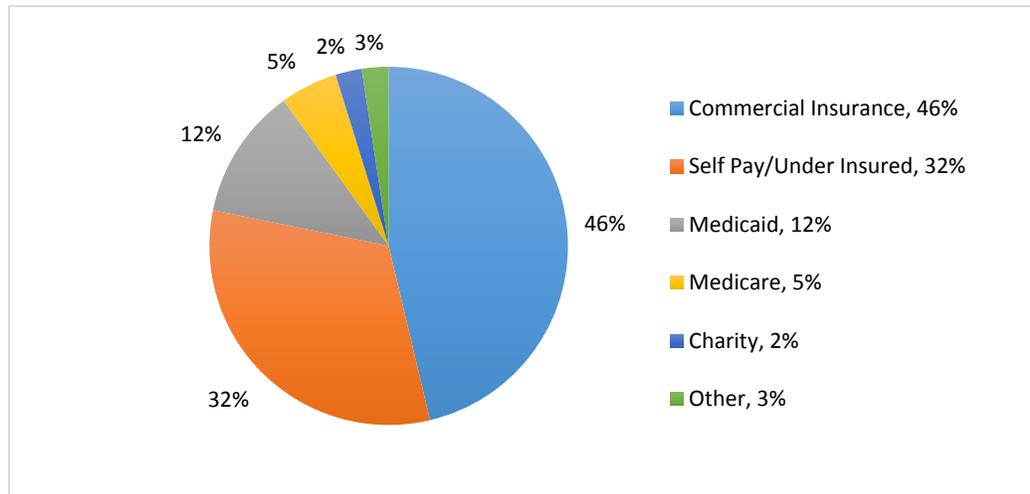
<sup>1</sup> The injury data presented in this report are based on an analysis of motorcycle traffic crashes. A motorcycle is defined as a two-wheeled motor vehicle with one or two riding saddles and sometimes a third wheel for the support of a sidecar. A traffic crash is defined as a vehicle accident occurring on a public highway. Off-road motor vehicles are excluded.

<sup>2</sup> Data Source: Hospital Discharge Data, Florida Agency for Health Care Administration, Case Definition: Injury Primary Diagnosis and Motorcycle Traffic Crash External Cause of Injury ICD-9 CM E810-E819 (2.3).

for hospitalizations by commercial insurance (53%), self-pay or underinsured (17%), Medicaid (11%), and Medicare (8%). Figure 1-6 shows reimbursement sources for ED visits by commercial insurance (46%), self-pay or underinsured (32%), Medicaid (12%), and Medicare (5%).



**Figure 1-5 2014 Hospitalizations in Florida for Non-Fatal Injuries Sustained in Motorcycle Traffic Crashes by Payer Source**



**Figure 1-6 2014 Emergency Department Visits in Florida for Non-Fatal Injuries Sustained in Motorcycle Traffic Crashes by Payer Source**

## Rider Characteristics

The Florida Department of Transportation (FDOT) conducted a statewide motorcyclist survey to collect behavior characteristics of motorcyclists in Florida and to determine measures to evaluate the progress of motorcycle safety promotion efforts in Florida. The survey included specific questions related to outreach and motorcycle-safety paid-media efforts through FDOT safety grants. The survey also collected opinions of motorcyclists in Florida regarding motorcycle safety issues and policy in conjunction with demographic information of motorcyclists, such as riding experience, motorcycle type, age, and formal training experience. The survey was conducted by the Center for Urban Transportation Research (CUTR) at the University of South Florida.

### *Survey Methodology*

The Florida Department of Highway Safety and Motor Vehicles (DHSMV) provided information on all individuals in Florida who possess a motorcycle endorsement. A web-based survey with a multi-method sampling approach was adopted to conduct the Florida Motorcyclist Survey. The survey link was distributed through the following methods:

- Address-Based Sampling (ABS) – Postcards with an invitation to complete the web-based survey were sent to a random sample of endorsed motorcyclists. In total, 30,000 addresses were sampled from the Florida DHSMV database of endorsed motorcyclists. Each sampled address was sent two invitation postcards over a period of two weeks.
- Facebook – An advertisement that targeted motorcycle riders age 18 and older was placed on Facebook for 10 days to advertise the web survey.

In total, 3,817 survey responses (including partially-completed surveys) were collected. During the data cleaning process, 662 records were removed, and a total of 3,155 responses were used. To ensure that the survey analysis was not biased toward specific age groups, the 3,155 records in the data set were weighted such that the age distribution of the survey respondents matched the statewide age distribution of endorsed motorcyclists.

### *Results*

The survey results indicated the following:

- **About two-thirds of motorcyclists in Florida ride a motorcycle for recreational purposes and about 23% commute by motorcycle.** Although the proportion of respondents who rode a motorcycle mainly for commuting purposes increased during the past five years, overall, 66.7% of respondents stated that they rode a motorcycle for recreational purposes. Fewer than 10% of female motorcyclists stated that they commute on their motorcycles. For the 18–24 age group, almost half of respondents stated that the purpose of motorcycle riding was “commuting,” and both Sport Bikes and Supersport

were the most common motorcycle type for this segment of the riding population.

- **More than 55% of motorcyclists stated that they rode fewer than 5,000 miles during the past 12 months; about 17% indicated riding more than 10,000 miles.** About 30% of motorcyclists rode almost every day, and 63% rode more than once per week. The most common type of motorcycle were cruiser (38%) and Touring (19.8%). A total of 517 respondents (18.8%) indicated that they rode fewer than 1,000 miles or did not ride in the past 12 months. About one-quarter of respondents indicated that they were a member of a riding group.
- **On average, about half of respondents indicated that they attended at least one of three bike events in Florida (Daytona Bike Week, Biketoberfest, and Leesburg Bike Fest).** A total of 63.6% of respondents attended the Daytona Bike Week event in 2015; the second most-attended major bike event was Biketoberfest (49.7%), which also is held annually in Daytona Beach in Volusia County, a “hotspot” county for motorcycle crashes in Florida. Many respondents attended the Leesburg Bike Fest (39.3%). Representatives of the Florida Motorcycle Safety Coalition attended these three major bike events in Florida to promote motorcycle safety and increase motorist awareness. However, it is notable that bike event attendance is associated with age and motorcycle type, which means some motorcycle types or age group of motorcyclists are more likely to attend these events.
- **A majority of respondents agreed that formal training is important to motorcyclists and supported the Florida statute that requires mandatory training for new motorcycle endorsement.** More than two-thirds of respondents (69.3%) reported that they attended a formal motorcycle training course when they obtained their endorsement. Nearly all respondents indicated support for Florida’s mandatory training law that requires new riders to take the Motorcycle Safety Foundation (MSF) Basic Rider Course to obtain their endorsement. In addition, nearly all respondents thought it was important for motorcyclists to be formally trained before operating a motorcycle in traffic. Although the proportion of riders who received their endorsement with formal training has grown slowly since Florida passed the mandatory training law in 2008, 23.8% of respondents had never attended formal motorcycle training. The proportion of this group varies by county, with some counties showing more than 40% of respondents with no formal training. According to the survey, about 18% of people who received a motorcycle endorsement after formal training attended at least one other formal motorcycle training course after endorsement.
- **About two-thirds of respondents reported that they always wear a helmet when riding a motorcycle, but respondents were divided on their position towards reinstating a universal helmet law, with about 54% expressing support for reinstatement and about 46% expressing opposition.** In

general, motorcycle helmet use and positions on the universal helmet law are highly associated with gender and age, regardless of motorcycle type. However, it is notable that about 30% of respondents stated that they wear a helmet “always” or “most of time” when riding a motorcycle but oppose a universal helmet law. Fewer than 10% of respondents indicated that they do not like to wear a helmet when they ride a motorcycle; about 40% of motorcyclists in this group do not own a motorcycle helmet, but the overall percentage of helmet ownership among all respondents was 95.5%.

- **Overall, respondents recalled hearing or seeing motorcycle public service announcement (PSA) messages that have been promoted by FDOT. It appears that targeted efforts through social networks also have been effective.** For the past several years, FDOT has promoted several PSA messages to improve motorcycle safety in Florida. A majority of respondents recalled hearing or seeing the “Look Twice, Save a Life” message, which has been promoted for many years. About 50% of respondents recalled both the “Drink+Ride=Lose” and “Ride Smart” messages, which were newly-promoted during the past few years. The recall rate for these two messages did not differ by age group. More than 50% of respondents ages 18–34 recalled “The Road is not a Race Track,” another newly-promoted message by FDOT, but only 9.4% of motorcyclists in the 55+ age group recalled it. This message was targeted primarily at the 18–34 age group through Facebook advertisements.
- **A cross-tabulation by stratified age group (18–34, 35–54, and 55+) revealed that the age of motorcyclists is highly associated with many different aspects of motorcycle riding.** A much higher proportion of motorcyclists in the 18–34 age group stated that their primary purpose of riding was “commute” and identified themselves as a “risk acceptor” rather than a “risk avoider.” Compared to older motorcyclists, those in the 18–34 age group also wore a helmet more frequently and were more supportive of reinstating a universal helmet law in Florida. About 45% of respondents indicated that they recognized the “Florida Motorcycle Safety Coalition” or “RideSmartFlorida.” However, fewer than 20% of respondents stated that they had received or seen any motorcycle safety materials during the past 12 months. It is notable that both the 18–24 age group and the 65 or older age group had a relatively high exposure to safety materials compared to other age groups in Florida.

The survey provided a good understanding about the motorcycle riding population in Florida, including their experiences and behavior characteristics. It is notable that motorcyclists have a well-developed sub-group culture based on motorcycle type, which is also highly associated with the age of motorcyclists. To be able to promote motorcycle safety in an effective and efficient manner, a comprehensive planning process is required to coordinate all available resources and prioritize tasks based on data-driven approaches.

## 1.3 PURPOSE OF THE MSSP

The purpose of the MSSP is to focus funding and resources on the areas with the greatest opportunity to reduce motorcycle fatalities, serious injuries, and crashes. The MSSP is designed to provide a comprehensive strategy to address motorcycle safety issues by identifying goals, strategies, action steps, and performance measures for key program areas. The five-year plan provides guidance to the FDOT Motorcycle Safety Program and key stakeholders concerned with improving motorcycle safety, including Florida DHSMV, Florida DOH, law enforcement, local agencies, motorcycle clubs/groups, and dealers.

FDOT is the designated lead agency for the MSSP and provides funding support.

## 1.4 MSSP DEVELOPMENT PROCESS

The development of the MSSP spanned a one-year period between December 2014 and November 2015. The FDOT Safety Office involved a wide range of safety partners throughout the process. The following sections describe the key activities conducted.

### **Motorcycle Safety Assessment**

The National Highway Traffic Safety Administration (NHTSA) assembled a multidisciplinary Technical Assessment Team (TAT) of national experts to conduct a thorough review of the Florida's motorcycle safety efforts. The Motorcycle Safety Program Technical Assessment for Florida was conducted in Tampa from May 4-9, 2014. Arrangements were made for program subject matter experts and key stakeholders to deliver briefings and provide support materials to the TAT over a three-day period. The TAT interviewed 33 presenters, some of whom were contacted following their presentations, to provide additional technical information and clarification. Based on the assessment results, the TAT provided recommendations for improvement. The recommendations played an integral role in the development of the MSSP. The plan outlines strategies to accomplish the recommendations and action steps desired by stakeholders.

### **Motorcycle Safety Coalition Meetings**

The State Highway Safety Office (SHSO) facilitated the establishment of a Motorcycle Safety Coalition to help implement the strategies and action steps set forth in the MSSP. The coalition includes representatives from FDOT, DHSMV, DOH, state and local law enforcement, emergency management, motorcycle safety interest groups, and motorcycle dealers. The coalition assisted with prioritizing the action steps identified in the MSSP.

## 1.5 MOTORCYCLE SAFETY STAKEHOLDERS

Many agencies, organizations, and groups have responsibilities and interests in motorcycle safety issues. NHTSA identified the programs and activities that make up a comprehensive motorcycle safety program. The MSSP provides a plan for the implementation process.

### **Public Agencies**

Several state agencies play key roles in the motorcycle safety planning process. FDOT houses several offices that are key to motorcycle safety. The State Safety Office manages the Motorcycle Safety Program, and the Office of Design, the State Traffic Engineering and Operations Office, the Office of Maintenance, the Office of Construction, and the Office of Materials provide transportation services that must integrate motorcycle safety in their work.

DHSMV houses the Florida Highway Patrol (FHP), the Division of Driver Licenses, and the Division of Motor Vehicles. Each of these divisions provides key input into the motorcycle safety planning process because of its enforcement, licensing, and vehicle registration responsibilities.

The Florida Rider Training Program (FRTTP) is administered by DHSMV. FRTTP grants certification for sponsors to operate training sites and Rider Coaches to provide instruction. The program uses the MSF Basic Rider Course (BRC). The MSF Experienced Rider Course (ERC) also is available for experienced riders who have a motorcycle endorsement but want to refresh or enhance their skills.

The Florida DOH's Division of Emergency Medical Operations is responsible for oversight of emergency medical services, emergency operations, public health preparedness, injury prevention, trauma, and brain and spinal cord injury.

Local agencies are key players in the implementation of motorcycle safety strategies. Local law enforcement agencies, planning and engineering departments, and public health agencies are responsible for implementing programs to reduce motorcycle crashes and educate the public.

### **Private Organizations**

Motorcycle dealers and motorcycle rights and safety organizations also are involved in the motorcycle safety planning process. These organizations advocate for safe conditions for motorcyclists and may provide motorcycle safety information to the motorcycling community and the general public.

### **Citizens**

Motorcycle enthusiasts/groups participate in planning activities related to motorcycle safety. These groups generally provide a public viewpoint on legislation, enforcement activities, and proposed strategies to improve motorcycle safety.

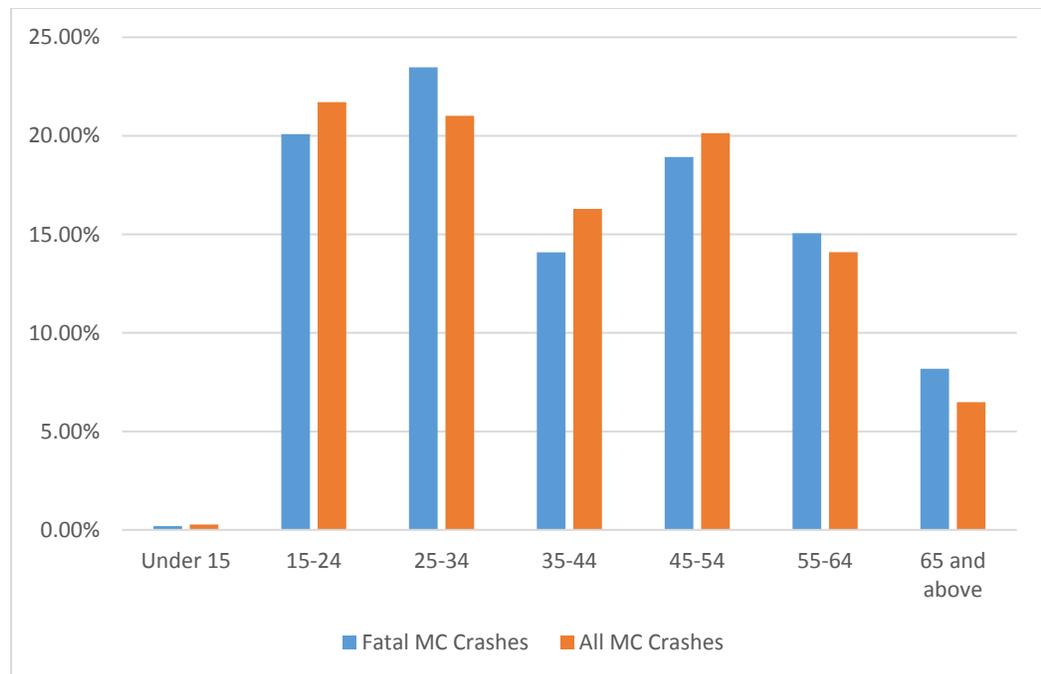
## 2.0 Motorcycle Crash Factors

A number of factors are associated with motorcycle crashes. Understanding these factors allows planners, engineers, decision-makers, and safety stakeholders to identify goals and strategies to address motorcycle safety issues. The following sections identify factors that uniquely contribute to motorcycle crashes in Florida.

### 2.1 AGE

Figure 2-1 shows the ages of motorcycle operator in Florida by age group between 2010 and 2014.

- More riders ages 25–34 were fatally injured in motorcycle traffic crashes in Florida than any other age group, followed by riders ages 15–24.
- The average age of fatally-injured riders was 40 years.



**Figure 2-1 Age of Motorcycle Operator Traffic Fatalities in Florida Motorcycle Crashes, by Age and Year (2010–2014)**

## 2.2 RESIDENCE

Florida is a popular tourist destination and host to a number of motorcycle enthusiast events. As it can be seen in Table 2-1, about 90% of motorcycle operators injured in motorcycle crashes in Florida had a Florida driver license at the time of collision. Some popular destination counties such as Monroe County and Volusia County have significantly high proportion of non-Florida driver license.

**Table 2-1 Motorcycle Operator with Florida Driver License at Time of Collision (2010–2014)**

	Fatal MC Crashes	All MC Crashes
<b>Statewide</b>	<b>90.7%</b>	<b>89.5%</b>
<b>Selected Counties</b>		
<b>Duval</b>	<b>88.4%</b>	<b>91.4%</b>
<b>Flagler</b>	<b>80.0%</b>	<b>83.4%</b>
Lee	90.4%	89.3%
<b>Monroe</b>	<b>69.2%</b>	<b>66.8%</b>
Orange	91.1%	90.5%
Palm Beach	86.3%	91.4%
Pinellas	94.9%	94.4%
<b>Volusia</b>	<b>86.2%</b>	<b>78.2%</b>

## 2.3 LOCATION

Motorcycle crashes and fatalities occur at greater frequencies in some locations. Factors such as population and proximity to motorcycle rallies play a role. The motorcycle fatality and injury history for Florida's 67 counties is shown in Table 2-2 and Table 2-3. Volusia, Palm Beach, Orange, Miami-Dade, Broward, Brevard, Duval, and Hillsborough counties account for the largest number of motorcycle fatalities.

**Table 2-2 Motorcycle Fatality History by Florida County**

County	2010	2011	2012	2013	2014	County	2010	2011	2012	2013	2014
Alachua	1	2	3	7	3	Lee	13	16	17	18	13
Baker	1	0	0	1	1	Leon	4	3	5	2	7
Bay	3	8	4	5	8	Levy	3	4	1	2	0
Bradford	0	0	0	2	0	Liberty	0	0	0	0	0
Brevard	13	15	13	20	8	Madison	0	0	0	0	0
Broward	24	41	41	36	42	Manatee	10	7	7	10	9
Calhoun	0	0	0	0	0	Marion	11	9	14	9	8
Charlotte	4	9	3	6	7	Martin	3	4	5	2	2
Citrus	5	4	7	7	4	Miami-Dade	31	38	32	45	61
Clay	2	1	2	1	3	Monroe	1	0	6	5	4
Collier	6	3	7	3	3	Nassau	1	2	2	0	1
Columbia	3	2	0	1	2	Okaloosa	2	2	6	4	6
De Soto	0	1	0	0	2	Okeechobee	1	0	1	0	2
Dixie	0	1	1	1	0	Orange	19	34	37	26	26
Duval	22	14	17	25	21	Osceola	3	9	7	9	7
Escambia	7	3	7	4	6	Palm Beach	24	19	17	19	17
Flagler	6	4	9	6	6	Pasco	16	19	9	14	11
Franklin	1	0	0	0	0	Pinellas	25	26	22	18	31
Gadsden	0	0	1	0	0	Polk	11	22	12	14	16
Gilchrist	1	0	0	0	0	Putnam	1	1	7	3	4
Glades	0	1	3	1	0	St. Johns	4	0	8	6	6
Gulf				0	0	St. Lucie	3	7	5	5	7
Hamilton	1	1	0	0	0	Santa Rosa	3	3	1	6	1
Hardee	2	1	1	1	2	Sarasota	5	7	10	5	8
Hendry	0	1	2	0	0	Seminole	6	13	3	7	6
Hernando	3	12	8	6	3	Sumter	7	0	3	4	3
Highlands	2	3	0	2	4	Suwannee	1	2	2	2	1
Hillsborough	24	37	39	44	31	Taylor	0	0	2	0	0
Holmes	0	1	1	1	0	Union	0	1	0	1	0
Indian River	4	4	1	4	3	Volusia	29	25	24	29	22
Jackson	1	0	1	0	0	Wakulla	1	0	3	0	0
Jefferson	0	1	0	1	0	Walton	3	1	5	1	1
Lafayette	0	0	1	1	0	Washington	1	0	3	0	0
Lake	4	8	9	10	10	Unknown	0	0	0	0	0

Source: Florida Traffic Crash Statistics Report

**Table 2-3 Motorcycle Injury History by Florida County**

County	2010	2011	2012	2013	2014	County	2010	2011	2012	2013	2014
Alachua	133	109	121	140	97	Lee	185	218	255	270	289
Baker	10	5	4	5	8	Leon	111	119	88	110	113
Bay	147	146	149	142	124	Levy	21	19	20	17	23
Bradford	10	5	8	13	7	Liberty	4	1	1	2	1
Brevard	233	206	283	309	319	Madison	7	7	4	4	7
Broward	571	598	630	629	628	Manatee	121	153	126	167	162
Calhoun	4	3	3	4	2	Marion	151	148	120	162	134
Charlotte	66	82	61	67	68	Martin	87	57	46	67	76
Citrus	80	97	108	101	98	Miami-Dade	689	807	831	846	1,075
Clay	74	56	84	100	82	Monroe	225	189	266	242	274
Collier	80	75	72	116	99	Nassau	25	27	31	29	27
Columbia	23	33	27	20	14	Okaloosa	72	96	96	92	94
De Soto	19	11	18	9	19	Okeechobee	13	7	9	7	16
Dixie	5	3	2	4	4	Orange	464	544	496	593	606
Duval	356	387	496	456	403	Osceola	94	104	121	135	116
Escambia	136	190	174	156	126	Palm Beach	350	345	372	414	439
Flagler	65	67	66	51	75	Pasco	233	246	249	247	241
Franklin	1	3	4	7	2	Pinellas	432	459	525	500	497
Gadsden	10	6	17	7	6	Polk	190	199	258	245	292
Gilchrist	9	1	7	4	8	Putnam	29	43	48	38	35
Glades	7	5	6	2	8	St. Johns	56	107	119	113	106
Gulf	1	7	3	4	1	St. Lucie	80	97	101	88	108
Hamilton	7	3	2	7	6	Santa Rosa	61	73	72	50	49
Hardee	17	12	10	14	14	Sarasota	135	146	172	166	182
Hendry	6	10	15	5	8	Seminole	107	126	142	174	144
Hernando	105	110	119	120	97	Sumter	30	31	27	17	32
Highlands	38	37	54	35	29	Suwannee	14	14	7	13	13
Hillsborough	442	605	671	639	623	Taylor	3	6	2	5	3
Holmes	7	4	12	8	4	Union	2	4	0	3	5
Indian River	33	41	38	45	51	Volusia	522	456	545	506	460
Jackson	17	14	14	11	8	Wakulla	11	5	15	5	11
Jefferson	7	3	5	2	6	Walton	33	34	31	32	31
Lafayette	3	1	1	1	0	Washington	10	9	14	7	4
Lake	123	147	165	143	140	Unknown	0	1	0	0	0

Source: Florida Traffic Crash Statistics Report

## 2.4 REGISTRATIONS AND ENDORSEMENTS

Florida requires all two- and three-wheeled motor vehicle operators to obtain a license or endorsement to operate a vehicles. A motorcycle endorsement is issued to current license holders, and a Motorcycle-Only License is issued to motorcycle riders who do not hold a Class E driver's license. Under Section 322.01(26), Florida Statutes, a motorcycle is defined as "a motor vehicle powered by a motor with a displacement of more than 50 cubic centimeters, having a seat or saddle for the use of the rider, and designed to travel on not more than three wheels in contact with the ground, but excluding a tractor or moped."

In 2014, motorcycle registrations increased 2.8%. Table 2-4 shows registrations from 2010 to 2014.

**Table 2-4 Florida Motorcycle Registrations (2010–2014)**

Year	Registrations	% Change
2010	569,703	-2.6%
2011	572,573	0.5%
2012	579,191	1.3%
2013	585,067	1.0%
2014	601,253	2.8%

Source: Florida Department of Highway Safety and Motor Vehicles

Motorcycle endorsements increased by nearly 3% annually. Table 2-5 shows endorsements from 2010 to 2014. By 2014, Florida had issued 1,143,549 motorcycle endorsements.

**Table 2-5 Florida Motorcycle Endorsements (2010–2014)**

Year	Endorsements	% Change
2010	1,009,803	3.3%
2011	1,042,811	3.3%
2012	1,080,655	3.6%
2013	1,111,813	2.9%
2014	1,143,549	2.9%

Source: Florida Department of Highway Safety and Motor Vehicles

Table 2-6 and Table 2-7 show motorcycle registrations and endorsements for each Florida county. The counties with the largest percentage of registered motorcycles also account for the largest share of endorsements.

**Table 2-6 Motorcycle Registrations by Florida County (2010–2014)**

County	2010	2011	2012	2013	2014	County	2010	2011	2012	2013	2014
Alachua	7,900	7,789	7,817	7,626	7,443	Lee	2,008	2,0443	2,0925	2,1431	2,2167
Baker	670	709	700	690	656	Leon	5,685	5,668	5,695	5,791	5,700
Bay	7,935	8,328	8,007	8,162	8,407	Levy	1,701	1,713	1,663	1,621	1,592
Bradford	819	815	860	848	814	Liberty	154	142	144	149	145
Brevard	25,40	25,365	25,625	25,705	25,665	Madison	441	426	414	409	397
Broward	40,40	40,219	40,146	39,929	40,353	Manatee	9,439	9,461	9,565	9,926	10,286
Calhoun	313	314	297	313	314	Marion	12,35	12,376	12,343	12,508	12,735
Charlotte	6,646	6,777	6,940	7,083	7,384	Martin	5,296	5,353	5,438	5,488	5,723
Citrus	7,054	7,032	7,069	7,087	7,056	Miami-Dade	40,56	41,243	43,022	44,110	46,749
Clay	8,142	8,072	8,090	7,968	7,942	Monroe	8,839	8,934	9,015	8,980	9,355
Collier	9,881	9,919	10,009	10,088	10,225	Nassau	3,611	3,616	3,520	3,525	3,527
Columbia	2,175	2,118	2,027	1,989	1,978	Okaloosa	8,032	8,131	8,350	8,351	8,247
De Soto	759	721	714	706	705	Okeechobee	1,251	1,228	1,178	1,195	1,215
Dixie	493	485	469	450	430	Orange	28,73	29,015	29,889	31,023	32,681
Duval	26,16	25,857	25,789	25,926	25,596	Osceola	7,770	8,065	8,283	8,403	8,470
Escambia	8,498	8,503	8,585	8,473	8,282	Palm Beach	29,91	29,828	30,239	30,779	31,470
Flagler	5,849	5,945	6,070	6,067	6,108	Pasco	16,80	16,653	16,793	16,811	16,824
Franklin	349	356	330	303	296	Pinellas	30,59	31,163	31,843	32,508	32,618
Gadsden	980	941	944	879	909	Polk	16,93	16,843	16,949	16,899	17,221
Gilchrist	526	518	541	588	555	Putnam	2,893	2,839	2,822	2,679	2,648
Glades	337	319	358	358	362	St. Johns	8,220	8,235	8,335	8,398	8,345
Gulf	479	462	474	471	476	St. Lucie	9,158	9,100	9,247	9,382	9,409
Hamilton	282	298	297	285	294	Santa Rosa	6,180	6,224	6,390	6,431	6,220
Hardee	421	413	389	394	401	Sarasota	13,07	13,140	13,361	13,820	14,240
Hendry	881	828	809	806	740	Seminole	13,53	13,528	13,465	13,155	12,922
Hernando	6,910	6,949	7,010	6,878	7,008	Sumter	2,905	2,993	3,077	3,138	3,324
Highlands	3,192	3,215	3,136	3,122	3,169	Suwannee	1,295	1,270	1,218	1,203	1,221
Hillsborough	27,94	28,682	29,372	29,835	29,848	Taylor	513	507	487	484	503
Holmes	498	493	473	471	448	Union	338	327	346	307	282
Indian River	4,765	4,832	4,884	4,931	5,200	Volusia	32,93	32,627	32,489	32,559	32,680
Jackson	1,150	1,132	1,093	1,062	1,044	Wakulla	1,154	1,165	1,086	1,065	1,044
Jefferson	358	355	348	356	336	Walton	1,989	2,125	2,183	2,246	2,298
Lafayette	146	145	125	106	104	Washington	696	717	690	692	718
Lake	12,03	12,033	12,143	12,319	12,499	Unknown	6,258	6,536	6,787	7,327	7,615

Source: Florida Department of Highway Safety and Motor Vehicles

**Table 2-7 Motorcycle Endorsements by Florida County**

County	2010	2011	2012	2013	2014	County	2010	2011	2012	2013	2014
Alachua	1,2082	1,2500	1,2936	1,3337	1,3670	Lee	38,253	40,341	42,342	43,987	45,965
Baker	1,332	1,375	1,447	1,457	1,461	Leon	10,053	10,341	10,627	11,013	11,020
Bay	12,596	13,152	13,587	14,003	14,317	Levy	3,043	3,124	3,177	3,246	3,290
Bradford	1,463	1,503	1,629	1,683	1,739	Liberty	314	325	343	353	372
Brevard	43,816	45,190	46,738	48,283	49,457	Madison	825	852	875	890	893
Broward	67,343	69,302	71,448	73,275	74,609	Manatee	16,861	17,591	19,363	19,154	20,099
Calhoun	676	673	685	695	719	Marion	23,480	24,227	25,067	26,049	26,989
Charlotte	13,267	13,736	14,530	15,234	15,939	Martin	9,966	10,312	10,673	11,031	11,362
Citrus	13,512	13,873	14,326	14,642	14,944	Miami-Dade	58,455	61,446	64,924	68,136	70,844
Clay	14,082	14,698	15,357	15,690	16,043	Monroe	9,683	9,834	9,963	10,134	10,261
Collier	18,128	18,794	19,513	20,210	20,956	Nassau	5,509	5,730	5,962	6,224	6,416
Columbia	3,829	3,919	3,993	4,120	4,225	Okaloosa	15,166	15,619	16,330	16,619	16,766
De Soto	1,357	1,375	1,428	1,448	1,484	Okeechobee	2,239	2,240	2,252	2,279	2,257
Dixie	914	916	944	963	973	Orange	52,124	54,565	57,279	59,294	61,142
Duval	42,413	44,100	46,205	47,694	48,796	Osceola	15,437	16,328	17,083	17,618	18,164
Escambia	15,999	16,411	17,025	17,334	17,500	Palm Beach	50,775	52,513	54,399	55,915	57,554
Flagler	9,729	10,154	10,521	10,921	11,192	Pasco	31,076	32,122	33,329	34,265	35,153
Franklin	590	596	618	624	639	Pinellas	51,965	53,846	56,319	58,023	59,690
Gadsden	1,586	1,621	1,671	1,701	1,769	Polk	32,804	34,046	35,318	36,599	37,764
Gilchrist	974	1,006	1,041	1,115	1,176	Putnam	4,599	4,691	4,853	4,999	5,085
Glades	593	607	636	661	689	St. Johns	13,300	13,957	14,693	15,349	13,470
Gulf	921	934	967	1,019	1,044	St. Lucie	16,252	16,880	17,554	18,203	27,302
Hamilton	541	560	595	620	642	Santa Rosa	11,902	12,221	12,647	13,191	27,923
Hardee	844	846	863	888	887	Sarasota	23,510	24,443	25,399	26,377	16,039
Hendry	1,405	1,417	1,440	1,457	1,432	Seminole	25,129	26,073	26,916	27,455	18,778
Hernando	12,740	13,169	13,604	13,937	14,382	Sumter	6,043	6,432	6,944	7,450	8,035
Highlands	6,032	6,204	6,381	6,476	6,699	Suwannee	2,290	2,351	2,405	2,456	2,488
Hillsborough	50,544	53,247	56,340	58,922	61,129	Taylor	959	979	1,006	1,036	1,065
Holmes	1,113	1,134	1,145	1,111	1,096	Union	632	665	689	688	690
Indian River	8,506	8,853	9,327	9,636	10,094	Volusia	53,246	54,397	55,883	56,898	57,860
Jackson	2,158	2,218	2,302	2,340	2,377	Wakulla	1,906	1,989	2,071	2,088	2,136
Jefferson	664	684	702	720	742	Walton	3,432	3,630	3,834	4,111	4,340
Lafayette	275	282	286	283	289	Washington	1,331	1,375	1,400	1,456	1,493
Lake	22,714	23,618	24,574	25,465	26,239	Unknown					

Source: Florida Department of Highway Safety and Motor Vehicles

Although motorcycle endorsement has increased during the past five years in Florida, it is notable that about 20% of motorcycle operators did not have motorcycle endorsement at the time of collision in 2014.

As can be seen in Table 2-8, the proportion of motorcyclists without endorsement at the time of collision is more significant in the 15-24 and 25-34 age groups.

**Table 2-8 Florida Motorcyclists with No Endorsement at Time of Collision (2014)**

Age	With Endorsement	Without Endorsement
15-24	76.6%	23.4%
25-34	75.2%	24.8%
35-44	81.4%	18.6%
45-54	83.7%	16.3%
55-64	87.1%	12.9%
65-74	91.5%	8.5%
75-84	82.8%	17.2%
85+	85.7%	14.3%
Total	80.8%	19.2%

In addition, some counties such as Miami-Dade (38.3%), Duval (27.9%), and Palm Beach (25.2%) have significantly higher proportion of unlicensed motorcyclists compare to statewide average based on crash data.

## 2.5 HELMET USE

One of major contributing factors to higher injury rates in motorcycle crashes is that motorcycles provide very limited protection for operators or passengers during traffic crashes compare to other motor vehicles. Therefore, it is important for motorcyclists to use adequate personal protection equipment (PPE) to reduce injury severity during traffic crashes. In general, PPE includes helmet, eye protection, jacket and long pants, gloves, and boots. The efforts to increase the use of Federal Motor Vehicle Safety Standard (FMVSS) 218-compliant helmets and the use of protective clothing are recommended as primary strategies to reduce the severity of motorcycle crashes.

FDOT/CUTR has conducted an annual observational survey of motorcyclists since 2010, designed to collect data from statistically-sampled locations in multiple counties in Florida; sample size was decided based on the number of motorcycle registrations. The required number of observations to obtain results at the 95% confidence level with a +/- 2 confidence interval is 4,132 or more based on 600,000 motorcycle registrations. As can be seen in Table 2-9, the observed helmet use rate in Florida has been fairly consistent over the past four years.

**Table 2-9 Observed Use of Motorcycle Helmets in Florida (2010–2014)**

Year	DOT-Compliant	Non-Compliant	No Helmet	# of Observations
2010	52.4%	1.3%	46.3%	5,196
2011	49.2%	3.4%	47.4%	7,547
2012	47.0%	3.1%	49.9%	10,363
2013	50.7%	2.9%	46.4%	9,464
2014	47.1%	5.9%	46.0%	7,821

A factor that is often neglected when interpreting the statistics of motorcycle helmet use, but that is important to consider, is motorcycle type. Table 2-10 shows the different types of motorcycles observed in Florida. On average, Cruiser was the most frequently observed motorcycle type in Florida, followed by Touring and Sport Bike. It is notable that the proportion of Trike is small but growing steadily.

**Table 2-10 Observed Motorcycle Types in Florida (2010–2014)**

Year	Cruiser	On/Off Road	Sport Bike	Standard	Touring	Trike	Other/Unknown
2010	51.9%	0.9%	20.6%	7.4%	16.8%	1.3%	1.1%
2011	38.6%	1.4%	18.0%	14.0%	23.5%	2.4%	2.1%
2012	38.7%	1.0%	19.8%	7.7%	28.1%	2.5%	2.1%
2013	48.1%	0.9%	16.5%	4.8%	23.3%	3.8%	2.4%
2014	39.2%	1.5%	18.3%	4.2%	30.5%	4.0%	2.3%

It is well-known that different types of motorcycles belong to distinctive sub-cultures of motorcycling in the U.S. As a result, the practice of using a motorcycle helmet can differ by motorcycle type. In other words, the overall helmet use rate can vary depending upon the proportional distribution of motorcycle type. For example, a higher proportion of Sport Bike in the sampled motorcycles often resulted in a higher overall helmet use rate. As can be seen in Figure 2-2, the observed helmet use rate is almost twice as high for Sport Bike riders than for Cruiser riders.

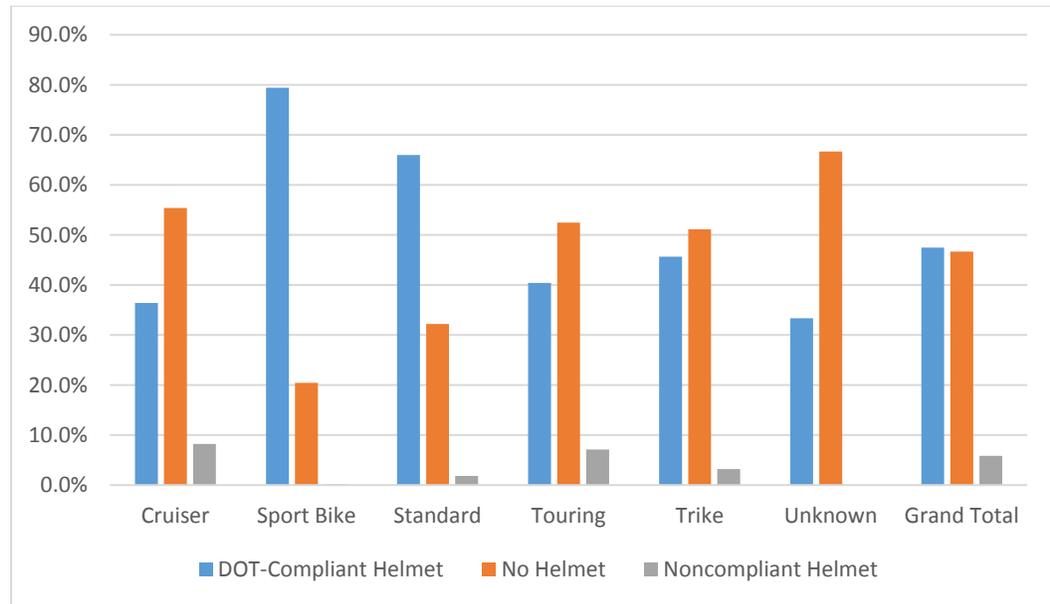


Figure 2-2 Observed Helmet Use by Motorcycle Type in Florida (sample size = 7,821)

## 2.6 ALCOHOL INVOLVEMENT

As can be seen in Table 2-11, it was reported that 29% of motorcycle fatalities in Florida involved motorcyclists with a blood alcohol level (BAC) of 0.08+, and 34% involved motorcyclists with a BAC of 0.01+ in 2013.<sup>3</sup> These statistics suggest that alcohol-impaired riding is an important issue to be addressed to reduce motorcycle fatalities in Florida.

Table 2-11 Motorcycle Rider BAC in Fatal MC Crashes

	BAC = 0.08+	BAC = 0.01+
2010	29%	34%
2011	27%	35%
2012	34%	36%
2013	32%	37%

## 2.7 TIME OF YEAR AND DAY OF WEEK

Figure 2-3 shows that 31% of fatal motorcycle crashes in 2010–2014 occurred during the months of March, April, and October. The largest percentage of fatalities occurred in March (11.0%). Florida hosts Daytona Beach Bike Week in the same month. Approximately 39% of fatal crashes occurred on Saturdays and Sundays (Figure 2-4).

<sup>3</sup> Source: NHTSA National Center for Statistics and Analysis.

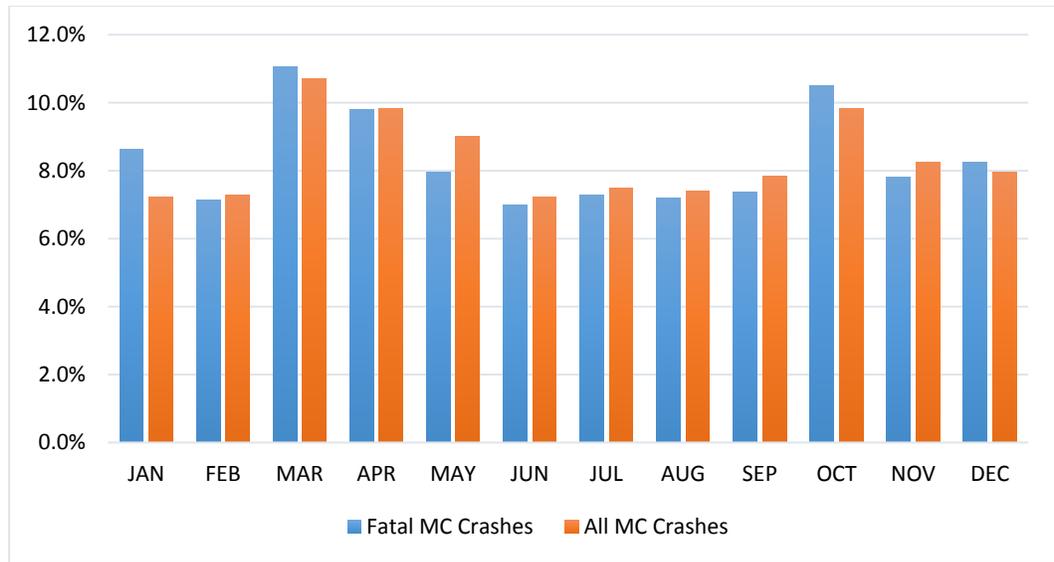


Figure 2-3 Florida Motorcycle Crashes by Month (2010–2014)

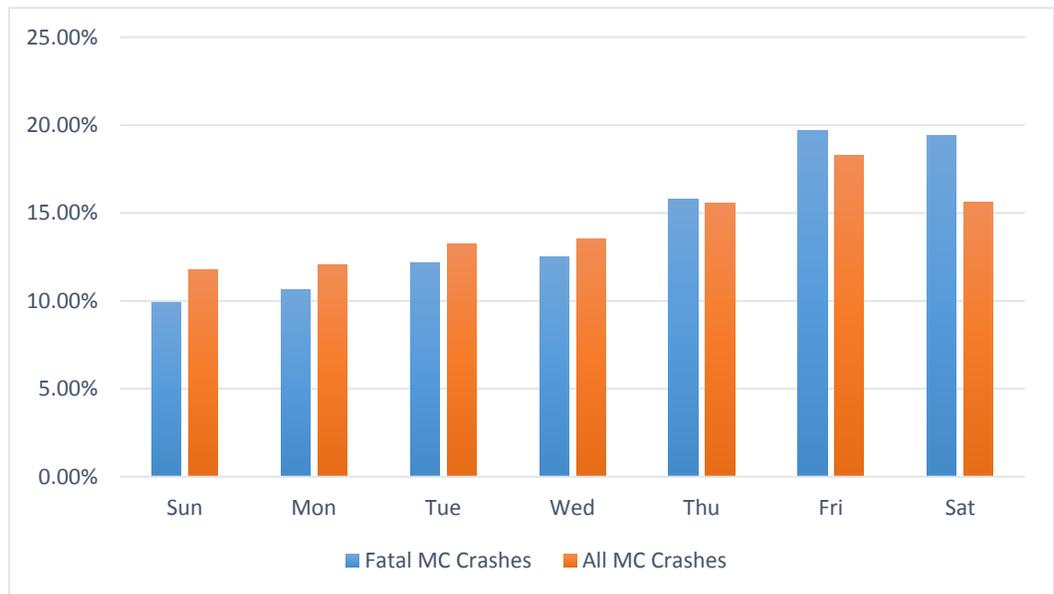
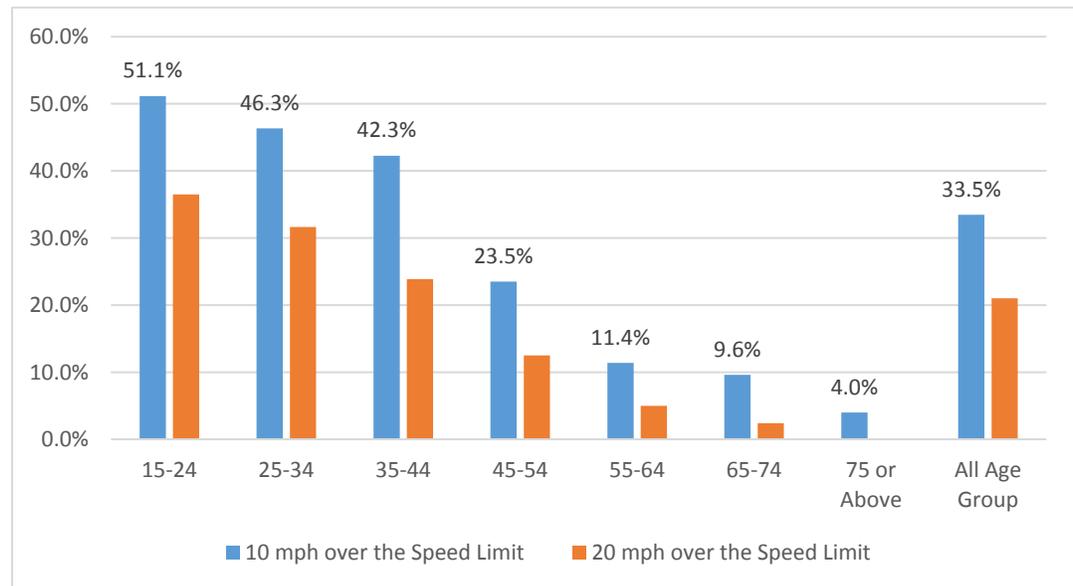


Figure 2-4 Florida Motorcycle Crashes by Day of Week (2010–2014)

## 2.8 SPEED

A crash is considered to be speeding-related if the motorcycle operator was exceeding 10 mph over the speed limit (estimated speed > posted speed limit). On average, about 33% of fatal motorcycle crashes (excluding non-moving cases) involved speeding between 2010 and 2014. Figure 2-5 shows the percent of fatal motorcycle crashes associated with speeding by age group. It is notable that about

50% of fatal motorcycle crashes in 15–24 age group were associated with speeding, and it is estimated that about 36% of motorcycles in the same age group were traveling 20 mph over the speed limit in fatal motorcycle crashes between 2010 and 2014.



**Figure 2-5 Estimated Speed in Florida Fatal Motorcycle Crashes by Age Group (2010–2014) (excluding non-moving cases)**

## 2.9 BODY REGION AND NATURE OF INJURY

### Fatalities

According to information available on 2012–2014 death certificates, the combined total of motorcycle traffic fatalities associated with multiple body regions was 42.2%; traumatic brain injuries accounted for 29.2%, 23.9% were the result of injuries to an unspecified body region, and 8.7% resulted from injuries to the trunk (Table 2-12).

**Table 2-12 Motorcycle Traffic Fatalities in Florida by Body Region Injured (2012–2014)**

Body Region	%	Body Region	%
Multiple Body Regions	42.2	Abdomen	1.7
Traumatic Brain Injury	29.2	Spinal Cord	1.5
Unspecified Region	23.9	Abdomen, Lower Back, & Pelvis	1.1
Trunk, other	8.7	Pelvis & Lower Back	<1
Thorax	8.0	Other Lower Extremity	<1
Neck	6.6	Other Head	<1
Vertebral Column	4.5	Upper Extremity	<1
System Wide	2.6		

Death certificates provide limited information about the nature of injuries contributing to motorcycle traffic fatalities between 2012 and 2014. A total of 97.2% of certificates cited at least one unspecified injury as an immediate or contributing cause of death, internal organs injuries accounted for 14.6%, and fractures were noted in 10.1% of fatalities.

## Hospitalizations

The types of non-fatal injuries responsible for hospitalizations of motorcycle riders injured in traffic crashes vary, but they usually are severe. Although many injuries may be involved in a single hospitalization, the principal diagnosis identifies the one injury primarily responsible for a rider’s hospitalization and treatment.

The body regions injured in hospitalizations for non-fatal injuries sustained in motorcycle traffic crashes are shown in Table 2-13. From 2012–2014, injuries to the torso (trunk) were responsible for the highest percentage of hospitalizations in Florida for non-fatal injuries among motorcycle riders (27.1%). Injuries to the lower extremities accounted for 20.8%, followed by traumatic brain injuries (19.9%).

**Table 2-13 Hospitalizations in Florida for Non-Fatal Injuries Sustained in Motorcycle Traffic Crashed by Body Region Injured (2012–2014)**

Body Region	%	Body Region	%
Torso	27.1	Other Head, Face, Neck	6.2
Lower Extremity	20.8	Spinal Cord Injury	1.6
Traumatic Brain Injury	19.9	Other & Unspecified	0.5
Vertebral Column Injury	12.8	System Wide & Late Effects	<1
Upper Extremity	10.6		

Table 2-14 shows the nature of injuries sustained in hospitalizations for motorcycle traffic crashes. From 2012–2014, fractures were responsible for the majority of hospitalizations in Florida for non-fatal injuries among motorcycle riders (60.5%). Internal organ injuries were responsible for 27.5%. Less severe injuries such as open wounds, superficial wounds, contusions, and dislocations combined were responsible for 3.7% of hospitalizations.

**Table 2-14 Hospitalizations in Florida for Non-Fatal Injuries Sustained in Motorcycle Traffic Crashes by Nature of Injury (2012–2014)**

Nature of Injury	%	Nature of Injury	%
Fractures	60.5	Blood Vessels	<1
Internal Organ	27.5	Crushing	<1
Open Wounds	3.7	Amputations	<1
Superficial/Contusions	3.4	Burns	<1
Dislocation	1.3	Nerves	<1
Unspecified	1.2	System Wide & Late Effects	<1
Sprains and Strains	<1		

## Emergency Department Visits

The body region and nature, or type, of non-fatal injuries of motorcycle riders injured in traffic crashes treated in an ED vary, but are less severe than injuries requiring hospital admission. Although many injuries may be involved in a single visit, the principal diagnosis identifies the injury primarily responsible for a rider’s visit and treatment.

Table 2-15 summarizes the body region injured in ED visits for non-fatal injuries sustained in motorcycle crashes. From 2012–2014, injuries to the body’s upper extremities were responsible for the highest percentage of ED visits for non-fatal injuries among motorcycle riders (26.5%), followed closely by lower extremity injuries (23.7%). Injuries to the head, face, and neck (excluding traumatic brain injuries) were also common and were responsible for 14.5% of visits.

**Table 2-15 Emergency Department Visits in Florida for Non-Fatal Injuries Sustained in Motorcycle Traffic Crashed by Body Region Injured (2012–2014)**

Body Region	%	Body Region	%
Upper Extremity	26.5	Other & Unspecified	7.9
Lower Extremity	23.7	Vertebral Column	6.0
Other Head, Face and Neck	14.5	Traumatic Brain Injury	3.0
Torso	9.6	System Wide & Late Effects	<1
Non-Injury Principal Diagnosis	8.7	Spinal Cord Injury	<1

The nature of injuries in Florida emergency department visits for non-fatal motorcycle injuries is shown in Table 2-16. From 2012–2014, superficial wounds and contusions were responsible for the highest percentage of ED visits in Florida for non-fatal injuries among motorcycle riders (31.1%). Fractures were the second most common and responsible for 20.9%, and sprains and strains accounted for 14.1% of visits.

**Table 2-16 Emergency Department Visits in Florida for Non-Fatal Injuries Sustained in Motorcycle Traffic Crashes by Nature of Injury (2012–2014)**

Nature of Injury	%	Nature of Injury	%
Superficial/ Contusions	31.1	Dislocation	2.1
Fractures	20.9	Amputations	<1
Sprains & Strains	14.1	Crushing	<1
Open Wounds	11.0	Burns	<1
Non-Injury Principal Diagnosis	8.7	Nerves	<1
Unspecified	8.4	System Wide & Late Effects	<1
Internal Organ	3.1	Blood Vessels	<1

Overall, the most common nature of injury and body region combination responsible for these ED visits was superficial bruises and contusions to the upper extremities (28.8% of visits), followed closely by fractures to the lower extremities (22.31%).

## 3.0 Motorcycle Strategic Safety Plan

### 3.1 VISION

Provide a safe transportation system for motorcyclists and the motoring public.

### 3.2 MISSION

The State of Florida will focus resources where opportunities for motorcycle safety improvements are greatest.

### 3.3 GOAL

To improve motorcycle safety in Florida by achieving a reduction in the number of motorcycle fatalities, serious injuries, and crashes beginning in 2016.

### 3.4 EMPHASIS AREAS

NHTSA identified seven focus areas for each state to develop and implement a comprehensive motorcycle safety program. The MSSP identifies goals, strategies, and action steps to implement improvements in the program areas. The seven program areas are as follows:

- Program Management
- Data and Analysis
- Rider Training and Licensing
- Law Enforcement and Emergency Services
- Roadway Engineering
- Advocacy and Policy
- Communications and Outreach

### 3.5 PROGRAM MANAGEMENT

#### Goal

Manage motorcycle safety activities in Florida as part of a comprehensive plan that includes centralized program planning, implementation, coordination, and evaluation to maximize the effectiveness of programs and reduce duplication of effort.

### **Strategy 1**

Develop and implement an ongoing objective process to measure and evaluate the value, effectiveness, and outcomes of the MSSP and Florida Comprehensive Motorcycle Safety Program.

- Facilitate regularly-scheduled Coalition meetings to monitor the progress of the MSSP.
- Conduct quarterly Emphasis Area Leader meetings.
- Conduct a yearly process evaluation that documents and analyzes the implementation of the program, assessing whether strategies were implemented as planned and whether expected output was actually produced.
- Evaluate the use of program resources and the effectiveness of program countermeasures, specifically among different rider types and in geographical regions identified as problem areas.

### **Strategy 2**

Promote multidisciplinary involvement of agencies and organizations responsible for or impacted by motorcycle safety issues in Florida's Motorcycle Safety Coalition.

- Monitor and evaluate Coalition membership and responsibilities to determine if additional or different organizations/individuals need to be invited to serve.
- Encourage collaboration among agencies and organizations responsible for, or impacted by, motorcycle safety issues.
- Partner with other traffic safety stakeholders (other Coalitions such as SADD, SM4L, etc.).

## **3.6 DATA ANALYSIS**

### **Goal**

Collect and analyze data on motorcycle crashes, injuries, and fatalities and provide local and state agencies with the best available data to make appropriate and timely decisions that improve motorcycle safety in Florida.

### **Strategy 1**

Collect, analyze, and report data from traditional and non-traditional data sources in a timely manner.

- Provide standard motorcycle injury surveillance and Vital Statistics Database Report.

- Provide pre-hospital motorcycle crash statistics.
- Research non-traditional data sources.
- Develop a GIS map quarterly to identify hotspot areas for review at coalition meetings.

### **Strategy 2**

Promote inter- and intra-agency efforts to link crash, injury, licensing, violation, and registration records.

- Work to link rider training data with crash data and citation data.
- Evaluate the possible improvements for various databases linkage.

### **Strategy 3**

Investigate potential methodology to measure motorcycle vehicle miles traveled (VMT) in Florida.

- Conduct a pilot test of using vehicle classification information to estimate motorcycle VMT.
- Report “estimated” motorcycle VMT in Florida yearly.

### **Strategy 4**

Conduct and publicize statewide surveys of public knowledge and attitudes about motorcycle safety.

- Conduct mail surveys and analyze results.
- Disseminate survey results.

## **3.7 RIDER TRAINING AND LICENSING**

### **Goal**

Ensure quality and consistency in the rider training program so students will receive the level of information and experience necessary to properly prepare them for real-world riding situations.

### **Strategy 1**

Develop an objective and reasonable approach to routinely measure and evaluate the value and effectiveness of FRTP.

- Develop access to training data of all riders completed the BRC.
- Conduct a study using crash data to routinely measure and evaluate new riders trained through the FRTP.

- Evaluate research methods that study the effectiveness of motorcycle rider training courses.
- Ensure FRTP continues to meet or exceed the Model National Standards for Entry Level Rider Training.

## Strategy 2

Evaluate and improve the needs of the program sponsors and rider coaches.

- Evaluate the current Rider Coach certification process to determine its effectiveness, and explore ways to train new rider coaches.
- Open up communication channels for sponsors to identify and report problems they are facing with maintaining their rider training businesses.

## Strategy 3

Determine the number of unendorsed riders and develop strategies and incentives to encourage riders to obtain proper endorsement.

- Assist the FRTP in the development and distribution of marketing materials that promote rider education as developing skills to have a safe adventure, not simply about safe riding (BRC/Scooter/Advanced).
- Develop methods to promote proper motorcycle licensing
- Support legislative efforts to allow an eight-hour Returning Rider course (RRBRC).
- Develop a method to evaluate the need for the *Florida Motorcycle Handbook*.

## Strategy 4

Increase the number of students participating in advanced rider education training programs.

- Explore possible tuition incentives for advanced rider training.
- Evaluate the potential for new innovative civilian rider safety training (Osceola civilian police course).
- Develop Smart Training courses to be implemented at police motorcycle competitions in hotspot areas yearly.

## 3.8 LAW ENFORCEMENT AND EMERGENCY SERVICES

### Goal

Increase the number of Law enforcement agencies, emergency medical service agencies, and trauma centers that have policies, goals, and outreach efforts with regard to motorcycle safety.

### Strategy 1

Develop agency policies/goals specific to motorcycle safety for law enforcement agencies.

- Create motorcycle-specific policies and goals for law enforcement agencies.
- Create a database of law enforcement agencies to identify those with and without motorcycle-specific policies/goals.
- Promote motorcycle-specific policies/goals to law enforcement agencies identified as not having them.

### Strategy 2

Provide law enforcement agencies with resources to conduct outreach, education, and high-visibility enforcement in areas with crash, injury, and fatality problems.

- Provide resources through grant funding to agencies in hotspot counties for crashes and fatalities to increase enforcement and education/training.
- Distribute educational materials to agencies in hotspot counties for distribution at outreach activities, community meetings, events, and schools.
- Encourage agencies to create databases to document motorcycle enforcement and crash data.

### Strategy 3

Encourage law enforcement to conduct motorcycle safety training for new and existing staff and use motorcycle safety resources.

- FDOT to provide funding for the development of a basic training video pertaining to vulnerable roadway users on crash procedures and investigation.
- Encourage law enforcement agencies to include basic motorcycle crash procedures and motorcycle safety in training of new recruits and existing staff.
- Create and promote on-line training for law enforcement first responder education for motorcycle crashes.

- Continue to update *Quick Reference Guide* annually and distribute to agencies for education and training.

#### **Strategy 4**

Reduce the number of impaired rider fatalities/injuries.

- Create a GIS map identifying alcohol vendors and associated impaired motorcycle crash/fatality locations.
- Provide incentives for law enforcement to conduct enhanced education and enforcement in areas discovered by GIS mapping task.
- Coordinate with DUI Coalition to collaborate on DUI initiatives.
- Study motorcyclist alcohol, drug, and medication use patterns.

#### **Strategy 5**

Promote incorporation of focused pre-hospital care and specific policies for motorcycle crash victims in emergency management system (EMS) agencies.

- Create and maintain database of EMS agencies and medical directors.
- Survey agencies to evaluate policies/goals specific to motorcycles.
- Provide best practices on motorcycle-specific crash response to all agencies through training.
- Develop standards to evaluate EMS program effectiveness.
- Research and develop after crash motorcycle helmet removal policies.

### **3.9 ROADWAY ENGINEERING**

#### **Goal**

Manage motorcycle safety through engineering practices as a part of a comprehensive plan that includes centralized program coordination, planning, design, implementation, and evaluation to maximize the effectiveness of programs and practices.

#### **Strategy 1**

Consider the unique characteristics of motorcycles and rider vulnerability when designing and improving highways and structures.

- Encourage use of advance warning signs and pavement markings to warn motorcyclists of dangerous conditions or countermeasures to reduce left-turn conflicts (such as median access control, signal phasing, and roundabouts).

- Promote removal of roadway debris from the roadway and roadside that may be hazardous for motorcyclists.
- Encourage use of high-traction pavement markings and surface materials for motorcycles during construction.

### **Strategy 2**

Develop and distribute best practices information on for motorcycle-specific engineering countermeasures.

- Conduct periodic review of FHWA Motorcycle Advisory Council and other state programs (state and non-state roads), literatures, and best practices.
- Develop an online “clearinghouse of ideas” for engineers to share information specific to motorcycle safety-related issues and topics.
- Develop best practices guides for distribution to engineers that will instill excitement regarding motorcycle safety.
- Identify District champions to distribute and promote engineering best practices and procedures designed for motorcycle safety.

### **Strategy 3**

Promote the sharing of information on crash locations, roadway characteristics, and hazards regarding potential problems for motorcyclists.

- Examine motorcycle crash data to identify and correct crash contributing factors involving roadway design, operation, or maintenance.
- Incorporate motorcycle safety considerations into roadway safety inspections or audits.
- Inform and encourage agencies using the [RideSmartFlorida](#) website, FIRES, Signal Four Analytics, and Coalition resources to access motorcycle safety and crash specific information.
- Develop hazardous roadway conditions educational materials and reporting system for motorcyclists.

### **Strategy 4**

Educate the highway engineering and maintenance workforce on roadway conditions that may be hazardous to motorcycles.

- Offer continuing education for engineers to periodically include motorcycle safety design criteria updates.
- Develop process to make T<sup>2</sup> training available online.

- Include a motorcycle component in Maintenance of Traffic (MOT) Training for contractors, designers, and engineers including MOT training courses for engineer certification.

## **3.10 ADVOCACY AND POLICY**

### **Goal**

Support legislative and judicial initiatives that promote motorcycle-related laws and regulations that improve motorcycle rider safety.

### **Strategy 1**

Identify and develop a call to action.

- Identify motorcycle/scooter/moped legal issues requiring legislative action/remedy.
- Research current Florida statutes related to current issues.
- Develop a detailed high-level white paper outlining each issue, including the problem, the impact in Florida, and possible solution(s)
- Develop a succinct guide for each legislative action to educate and inform legislators, stakeholders, the media, and consumers.

### **Strategy 2**

Identify and coordinate with other coalitions, organizations, and entities in proposing or supporting legislative efforts that would improve motorcycle safety.

- Identify and reach out to legislators interested in promoting and supporting motorcycle safety.
- Communicate with legislators in each state district to promote motorcycle safety, including action issues.
- Identify and communicate with other organizations that support motorcycle safety and related action issues.
- Periodically review legislative champions and stakeholders, including new groups and legislators.

### **Strategy 3**

Support efforts to obtain DHSMV approval on policies that will provide judges with the discretion to require operators charged with unlawful speed and/or careless driving violations to appear before a court and be ordered to attend a motorcycle-specific driver improvement course.

- Evaluate other state judicial procedures regarding discretion to order motorcycle specific improvement courses.
- Work with DHSMV to get approval for motorcycle-specific courses to remove points.

## 3.11 COMMUNICATIONS AND OUTREACH

### Goal

Manage motorcycle safety activities in Florida as part of a comprehensive plan that includes centralized program planning, implementation, coordination, and evaluation to maximize the effectiveness of programs.

### Strategy 1

Develop a multicultural outreach plan that identifies specific goals, measurable objectives, and evaluation plans.

- Define overall outreach objectives.
- Identify target audience of road users.
- Identify external outreach partners (Florida DHSMV, NHTSA, CTSTs, etc.).
- Develop messages that will be directly tied to the outreach strategic plan goal and objectives.
- Identify available outreach tools based on budget, deadlines, objectives, and human and technical resources, including non-traditional types of outreach.
- Create a strategic annual calendar of outreach deadlines for all outreach.

### Strategy 2

Implement an outreach plan that identifies specific goals, measurable objectives, and evaluation plans.

- Develop materials that will be sent to the Tax Collector's Offices.
- Assign roles and responsibilities.
- Execute outreach plan.
- Develop monitoring mechanism to oversee proposed activities.

### Strategy 3

Evaluate the outreach plan.

- Establish a yearly schedule to evaluate progress in completing the outreach plan.

- Determine strengths and weaknesses.
- Identify obstacles.

## **3.12 CONCLUSION**

Florida's safety community is dedicated to improving the safety of the state's transportation system for motorcyclists and the general public. The overall goal of the MSSP is to reduce the number of motorcycle-related crashes, injuries, and fatalities on Florida's roadways. The goals, strategies, and action steps set forth in this plan identify Florida's motorcycle safety priorities. The plan provides a roadmap for state and local agencies and private organizations committed to improving motorcycle safety.

# 4.0 Appendix

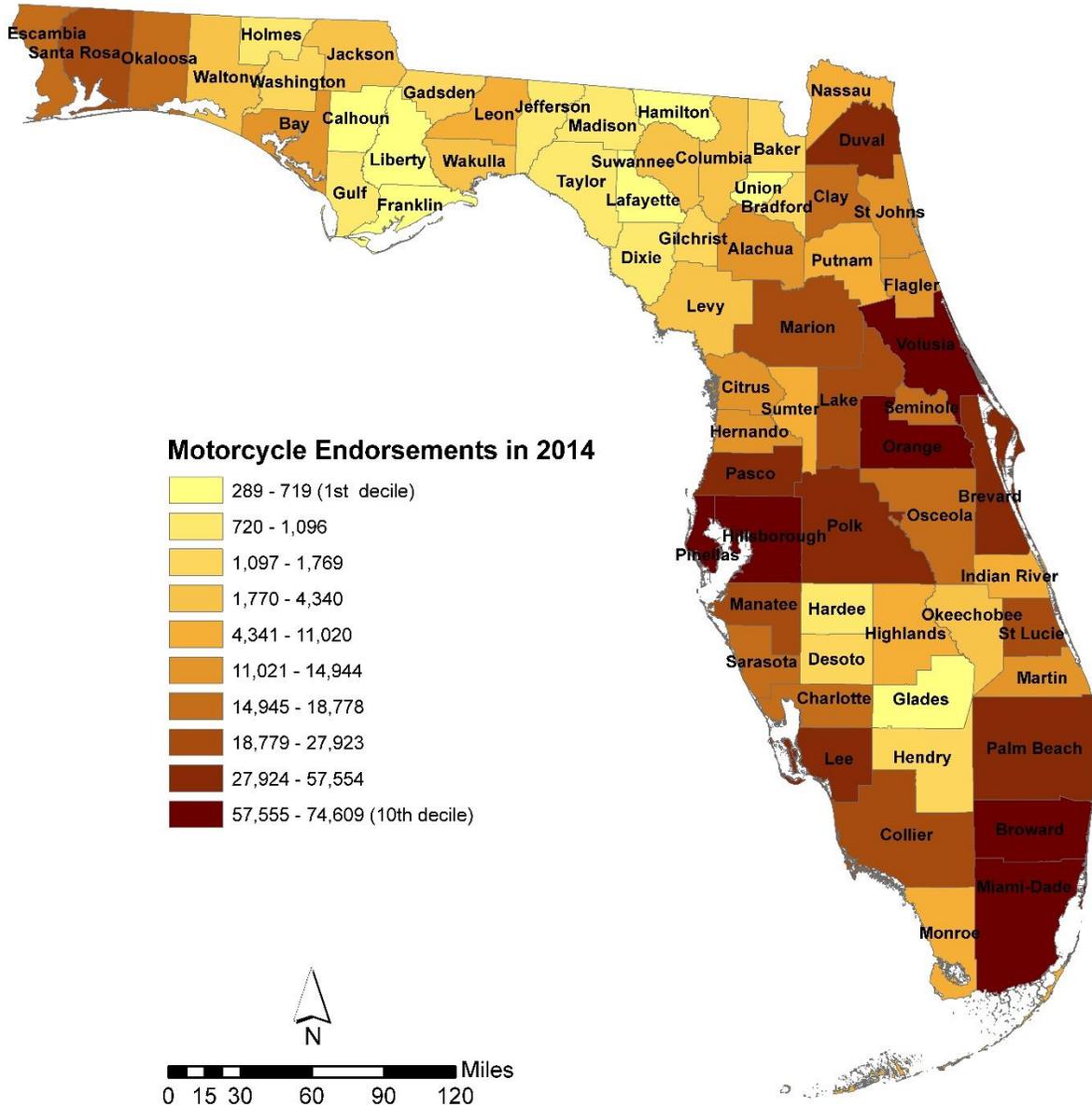


Figure 4-1 Motorcycle Endorsements by County (2014)

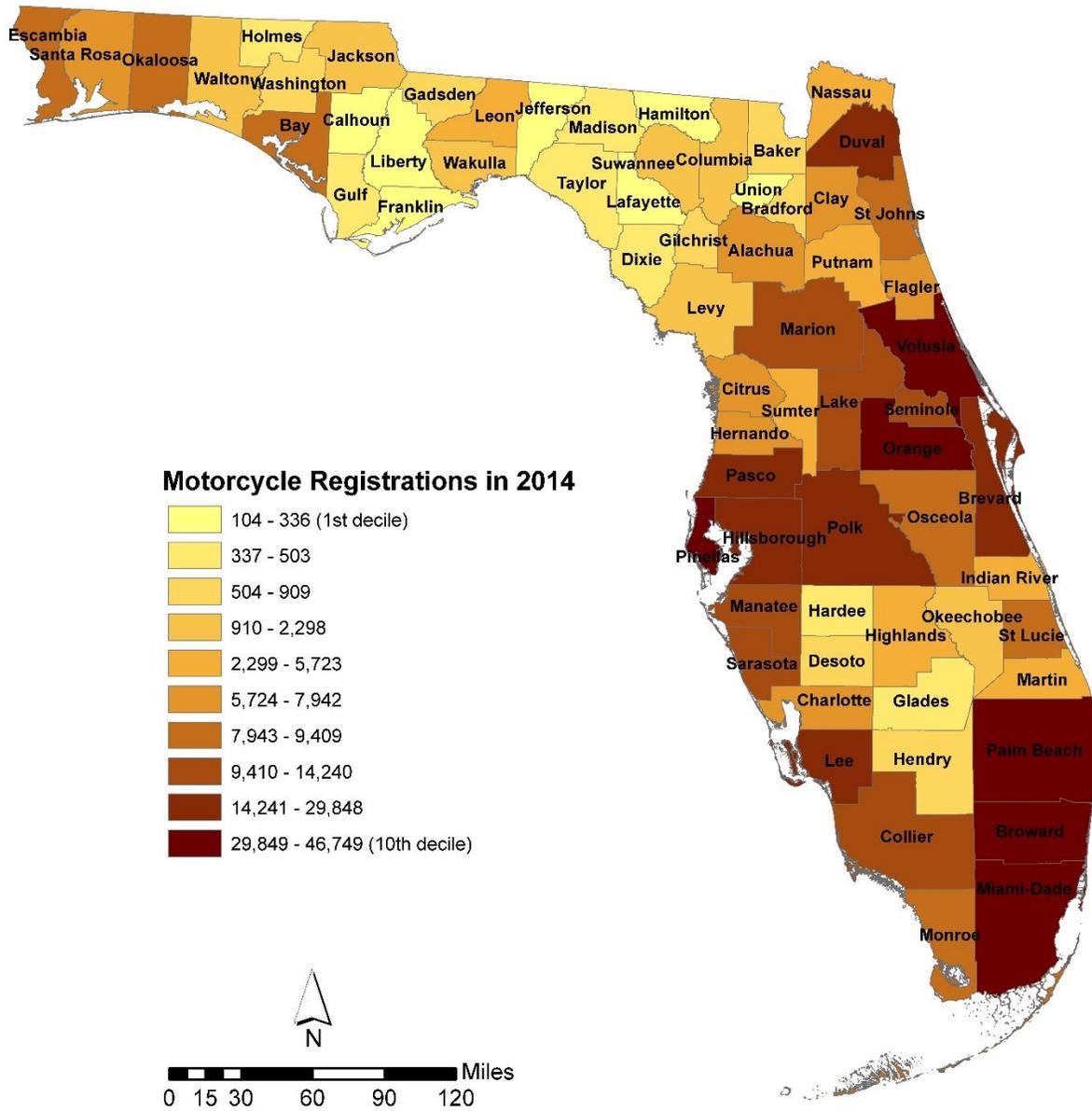


Figure 4-2 Motorcycle Registrations by County (2014)

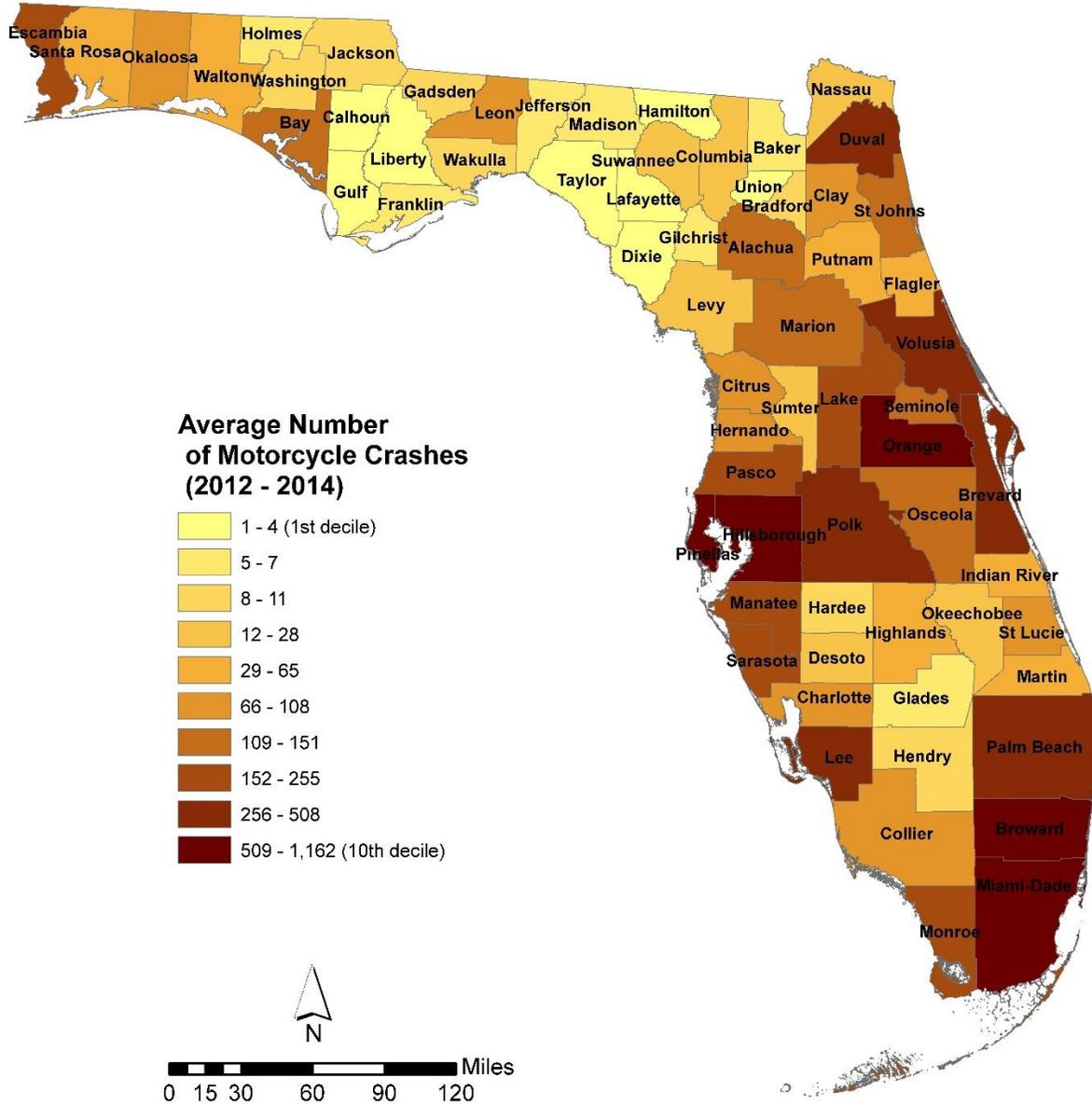


Figure 4-3 Motorcycle Crashes by County (2012–2014)

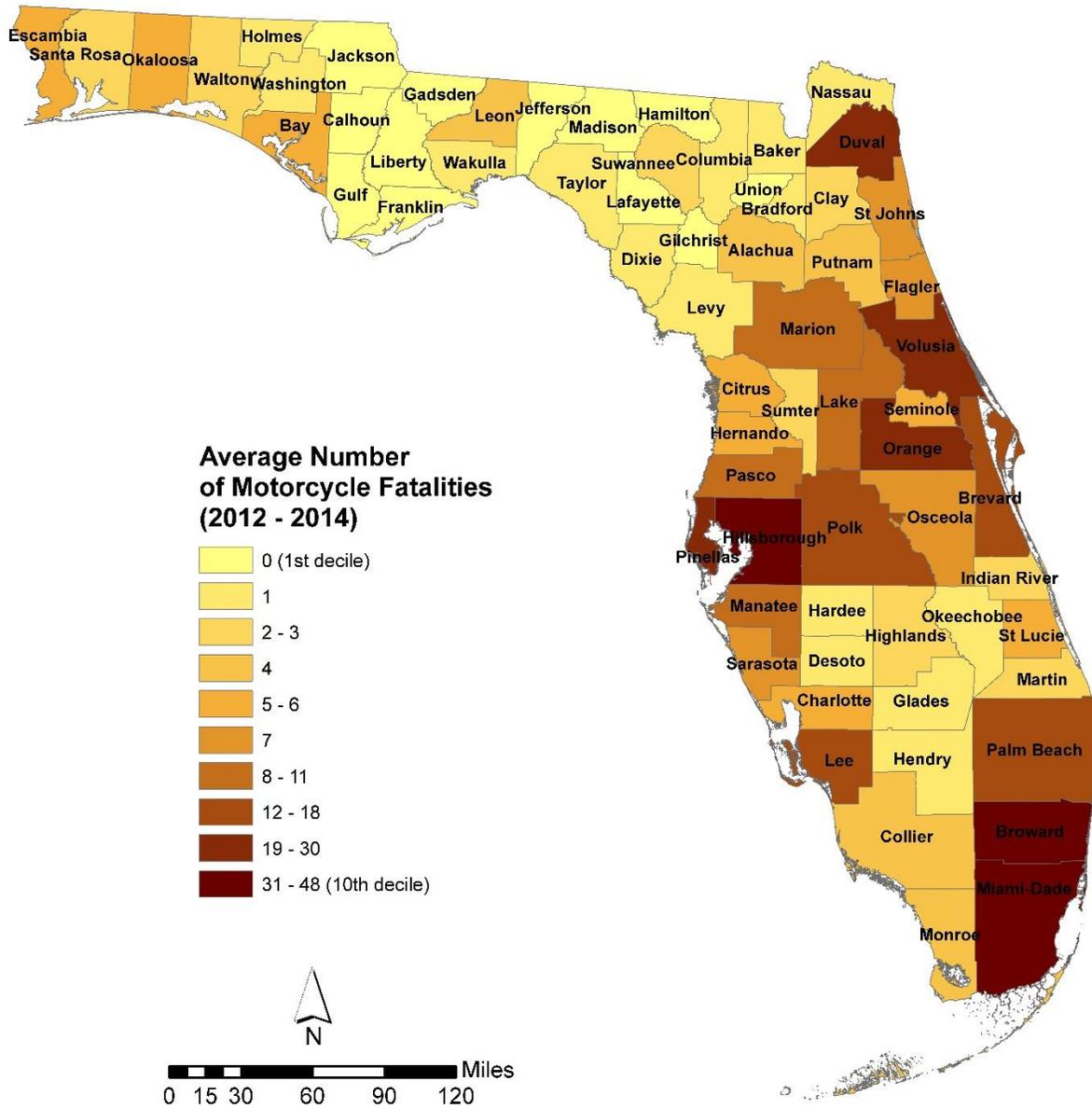


Figure 4-4 Motorcycle Fatalities by County (2012–2014)



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