

## Motorcycle Crash Trends in Florida



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## DISCLAIMER

- The Florida Department of Transportation (FDOT) funded the Observational Survey of Motorcyclists through the use of highway safety funds.
- The opinions, findings, and conclusions expressed in this presentation are those of the presenter(s) who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the views or policies of the Florida Department of Transportation or the U.S. Department of Transportation.




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### More Baby Boomers joining motorcycle clubs, for fun and to help various causes

by Tracy Smith-Rouse

The Baby Boomer generation is revving up the sport of motorcycling, whether they call it a sport or a hobby, all being enthusiasts would call motorcycling fun.

Often referred to Baby Boomer Bikers, they are the fastest growing segment of America's 6 million-member motorcycling population, and their numbers are increasing 10 percent a year, according to an article which appeared recently on Time.com.


This increase is due, in part, to the fact that the Baby Boomers make up such a large segment of the overall population, and many in that age group have the financial means now to afford a motorcycle.



Gathering of bikers during the "Blessing of the Bikes Ceremony" held early in May in North Syracuse.

Many of them are returning to the sport after years spent raising families and building their careers. They might have ridden when they were younger, but got married and traded their motorcycles for sedans. However, now their children have grown, they have reached some financial security, and the open road is calling them.

<http://tiny.cc/mwvccob6Biker-boom/>




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### Background

- Effective July 1, 2000, the state of Florida permitted motorcyclists over 21 years of age to ride without wearing a helmet in the state of Florida if they carry at least \$10,000 in medical insurance to cover injury costs as a result of a crash.
- Recently, amendments were made to the Florida motorcycle laws; therefore, effective July 1, 2008, a motorcycle training/safety course was mandated for all motorcycle riders seeking endorsement regardless of their age.




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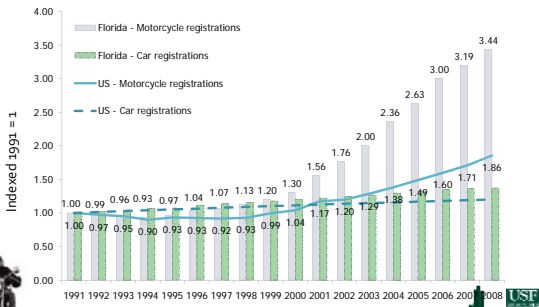
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### From 1991 to 2008, the number of motorcycle registrations in Florida increased nearly 3.5 times




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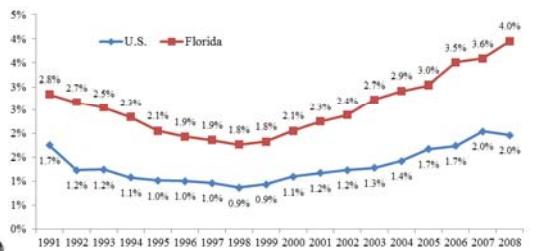
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### Percentage of Motorcycle Crashes to All Vehicle Crashes (1992-2008)




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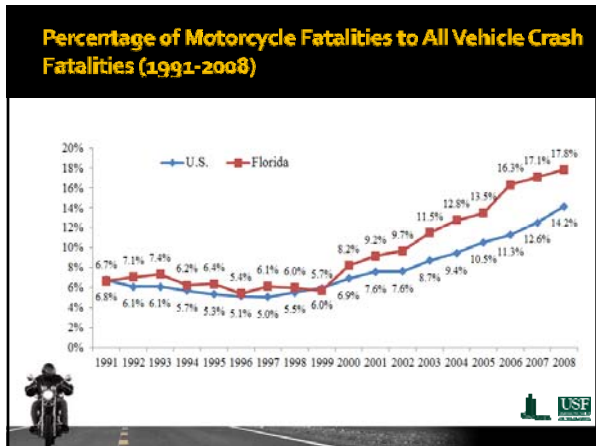
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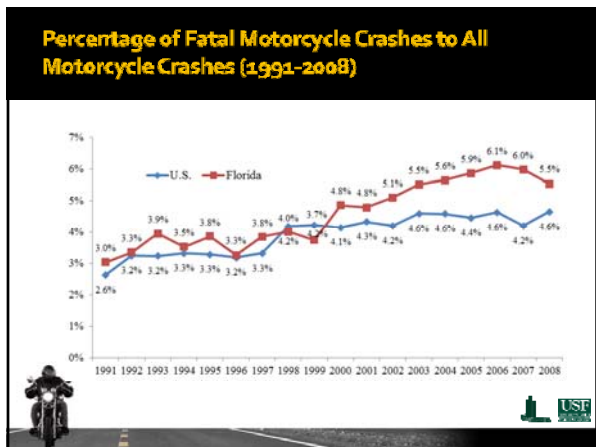
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### Motorcycle Rider Crash Trends in Florida by Year

Year	Motorcyclist Fatalities	All Traffic Fatalities	% of Total	Motorcyclist Injuries	All Traffic Injuries	% of Total	Motorcycles Involved in Crashes	All Traffic Crashes	% Of Total
2001	276	3,013	9.2%	5,101	234,600	2.2%	5,766	256,169	2.3%
2002	304	3,143	9.7%	5,384	229,611	2.3%	5,972	250,470	2.4%
2003	365	3,179	11.5%	5,973	221,639	2.7%	6,635	243,294	2.7%
2004	416	3,257	12.8%	6,558	227,192	2.9%	7,367	252,902	2.9%
2005	477	3,533	13.5%	7,282	233,930	3.1%	8,147	268,605	3.0%
2006	550	3,365	16.3%	8,769	214,914	4.1%	8,990	256,200	3.5%
2007	550	3,221	17.1%	8,955	212,149	4.2%	9,205	256,206	3.6%
2008	532	2,983	17.8%	9,402	199,658	4.7%	9,618	243,342	4.0%
2009	402	2,563	15.7%	8,202	197,214	4.2%	8,313	235,778	3.5%

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### Motorcycle Crashes in Florida (2008)

<b>38</b>	The median age of fatally injured riders in Florida
<b>32%</b>	The percent of motorcyclist fatalities related to traumatic brain injuries
<b>35%</b>	The percent of motorcyclists not wearing a safety helmet before a fatal crash
<b>46%</b>	The percent of motorcyclist hospitalizations and emergency department visits not covered by commercial insurance
<b>\$2,393</b>	The median hospital charge for motorcyclists treated and released from a Florida emergency department for the treatment of traffic crash injuries
<b>\$47,440</b>	The median hospital charge for motorcyclists admitted to a Florida hospital for the treatment of traffic crash injuries



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### Question

- Poll Question #1



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### The Economic Impact of Motorcycle Crashes in Florida



Total hospital charges for the initial treatment of motorcyclists injured in traffic crashes (2008)



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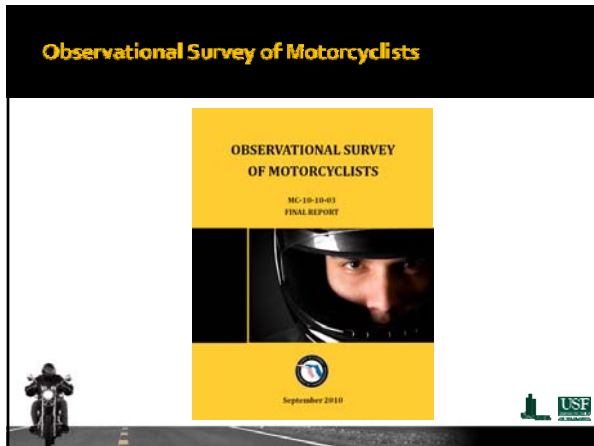
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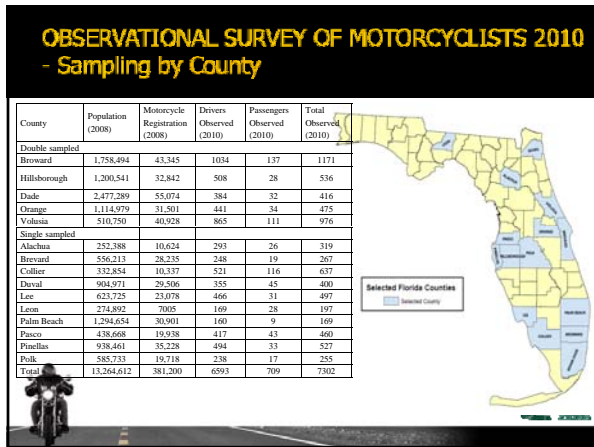
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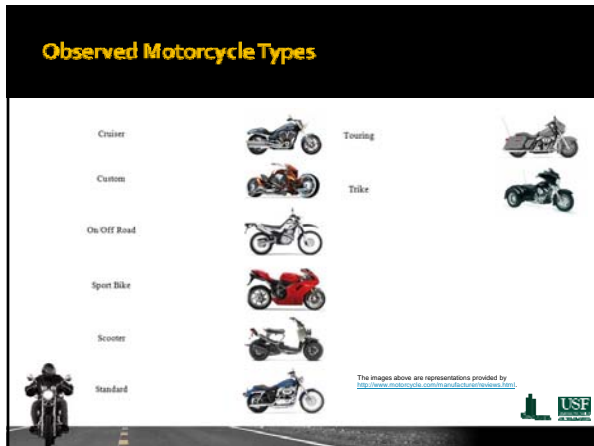
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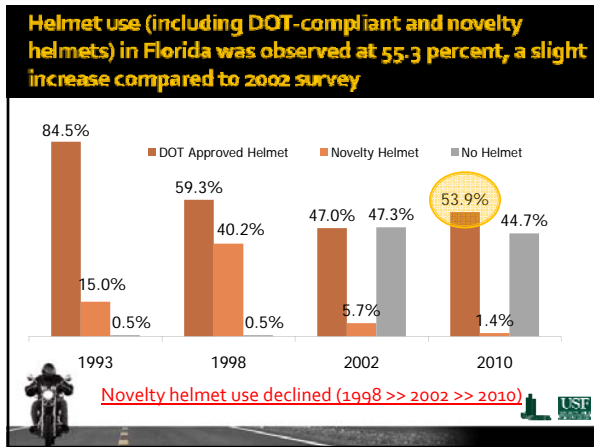
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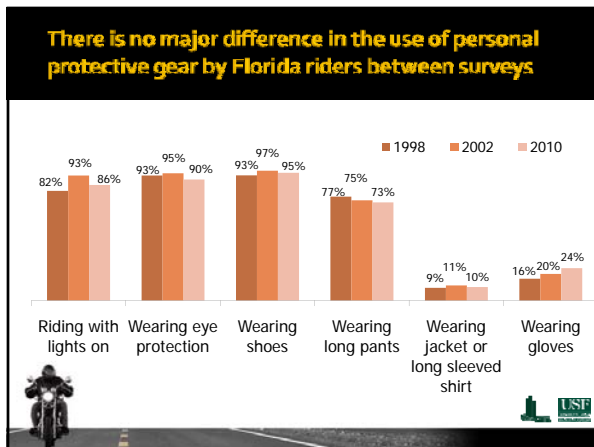
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### Florida motorcycle crash data has injury severity information (a scale of one to five)


**1: No Injury**  
Indicates there is no reason to believe any person received bodily harm from the crash.

**2: Possible Injury**  
No visible signs of injury but complaint of pain or momentary unconsciousness.

**3: Non-Incapacitating Evident Injury**  
Visible injuries from such as bruises, abrasions, limping, etc.

**4: Incapacitating Injury**  
Any visible signs of injury from the crash and person(s) had to be carried from the scene.

**5: Fatal Injury**  
An injury sustained in a crash those result in death within 30 days.




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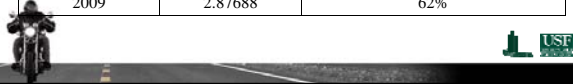
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### Average Injury Severity vs. Use of Safety Helmet in Crash Data

Year	Average Injury Severity	Use of Safety Helmet (Crash Data)
2002	3.13556	45%
2003	3.14031	50%
2004	3.1323	50%
2005	3.14578	56%
2006	3.07323	58%
2007	3.01916	59%
2008	2.97293	63%
2009	2.87688	62%




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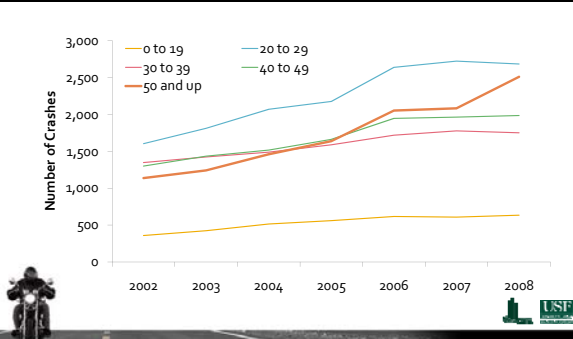
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### Motorcycle Crash Trends by Riders Age in Florida




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**Crashed vs. Endorsed Rider Population by Age**

Age	Crashed Riders (2008)	Percent	Endorsed Riders (2010)	Percent
0<age<20	634	6.6%	4929	0.5%
19<age<30	2685	28.1%	95216	9.5%
29<age<40	1752	18.3%	150675	15.1%
39<age<50	1985	20.8%	258992	25.9%
over 50	2510	26.2%	491173	49.1%


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**Poll Question**

- Poll Question #2


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**NEW MANDATORY MOTORCYCLE TRAINING LAW**

- As per Florida statute 322.0255, the Department of Highway Safety and Motor Vehicles (DHSMV) shall establish and administer motorcycle safety courses and also prescribe the curricula for such courses which should include a minimum of 12 hours of instruction and at least 6 hours of which shall consist of actual motorcycle operation.
- Effective July 1<sup>st</sup> 2008, Florida law requires **mandatory training** to obtain motorcycle endorsement.


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**Until 2007, the appearance of unendorsed motorcycle riders in crash data remained stable as 32 % which reduced to 29.3 % in 2008 and 25.3 % in 2009**

Crash Year	Endorsed motorcycle riders	Unendorsed motorcycle riders	Total
2002	68.1% (3,081)	31.9% (1,445)	4,526
2003	66.2% (3,553)	33.5% (1,793)	5,346
2004	67.8% (4,095)	32.2% (1,942)	6,037
2005	67.8% (4,505)	32.2% (2,138)	6,643
2006	67.3% (5,126)	32.7% (2,490)	7,616
2007	67.5% (5,475)	32.3% (2,641)	8,116
2008	70.7% (6,294)	29.3% (2,613)	8,907
2009	74.7% (4,753)	25.3% (1,606)	6,359
Average	68.76% (4,603)	31.2% (2,089)	6,694

( ): Number of riders




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**Motorcycle fatalities in Florida showed significant reductions in before / after new mandatory training law analysis (15 months after and 18 months before)**

Motorcycle Fatal Crashes by Month Before/After Mandatory Training Law

	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Before	2007	44	32	61	60	58	38	32	51	47	39	39	50
	2008	40	34	60	46	64	58						
After	2008							41	41	39	42	46	37
	2009	31	34	39	41	31	23	35	23	28			




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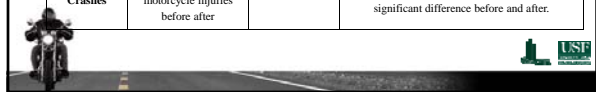
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**Hypothesis Testing on the Number of Crash by Month Before/After Mandatory Training Law**

	Hypothesis	P-value	Result
Total Crashes	There is no statistical difference between motorcycle crashes before after	0.5554	At 0.05 level of significant, we reject our null hypothesis testing which means that there is no significant difference before and after.
Fatal Crashes	There is no statistical difference between motorcycle fatal crashes before after	0.002478	At 0.05 level of significant, we fail to reject our null hypothesis testing which means that there is significant difference before and after.
Injury Crashes	There is no statistical difference between motorcycle injuries before after	0.4276	At 0.05 level of significant, we reject our null hypothesis testing which means that there is no significant difference before and after.




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**The Percentage of Crashes within One Year of Endorsement**

Endorsement Time Period	Trained	Number of Endorsed Riders	Crashes within One Year of Endorsement	Percent
2006-A	No	525	9	1.7%
2006-B	No	894	32	3.6%
2007-A	No	1246	45	3.6%
2007-B	No	1088	38	3.5%
2008-A	No	2326	44	1.9%
2008-B*	Yes	23290	331	1.4%



A: January to June B: July to December  
 \*Endorsement after the mandatory training law




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**Citations for riding at an unlawful speed and issuance of warnings were the most common citations issued to Florida motorcyclists**

Rank	Description of motorcycle conviction	Average Citations issued in a six month period	Average percentage out of all citations issued
1	Unlawful Speed	1,406	20.7%
2	Warning Issued	1,345	19.8%
3	Operating Motor Vehicle With Obscure/Deface/No Tag/Registration Certificate	482	7.1%
4	Operating Without Driving License /Improper Driving License	443	6.5%
5	Careless Driving	363	5.3%
6	Failure To Wear Helmet/Goggles By Either Operator /Passenger	331	4.9%
7	No Proper Endorsement On Driving License	287	4.4%
8	Driving While Driving License Is - Canceled/Revoked/Suspended/Disqualified	169	2.5%
9	Driving With Expired Tag - 6 Months Or Less	147	2.2%
10	Failure To Display Driving License	125	1.8%
	Total	5,098	75.3%




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**Since the implementation of the mandatory training law, the total numbers of motorcycle-related citations have continued to show reduction**

Time period	2006		2007		2008		2009	
	Jan - June	Jul - Dec	Jan - June	Jul - Dec	Jan - June	Jul - Dec	Jan - June	Jul - Dec
Total Number of Motorcycle-related Citations	4,786	6,328	6,985	7,236	7,366	8,111	7,844	6,963
Semi-Annual Change (%)	Base	32.2%	10.4%	3.6%	1.8%	10.1%	-3.3%	-11.2%




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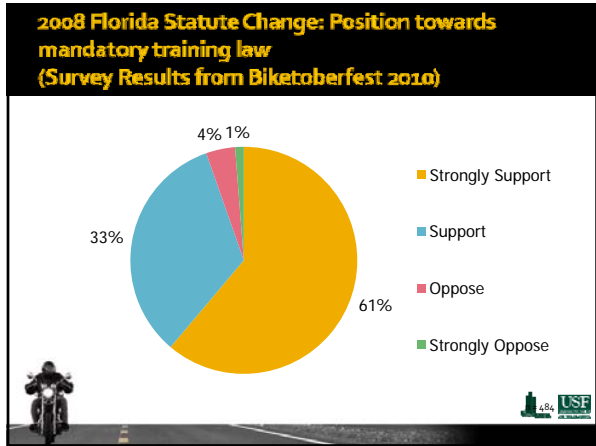
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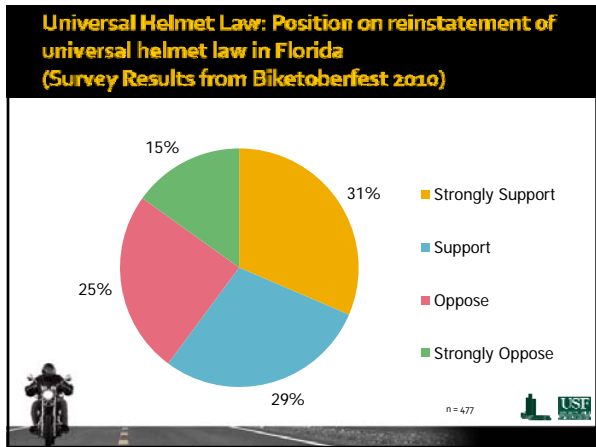
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### Recent Motorcycle Safety Promotion Efforts in Florida

- Several motorcycle safety campaigns have been developed to address the issue of impaired driving, distracted driving and campaigns such as "Look twice" campaign and "Ride proud, Dress Loud" campaign have been developed to help motorcycle riders and other vehicle riders increase motorcycle safety.
- In 2008, "Motorcycle Strategic Safety Plan(MSSP)" has been developed by forming a Florida Motorcycle Safety Coalition which is geared towards addressing specific issues of motorcycle safety through statewide implementation of safety strategies.

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**RideSmartFlorida.com**



- "Ride smart Florida (www.ridesmartflorida.com)" which is a complete resource made available online for motorcycle riders, trainers, sponsors, local governments, law enforcement agencies and emergency services and for everyone who is interested in improving motorcycle safety throughout Florida.
- The preliminary results of 2009 Florida crashes from the latest Traffic Crash Statistics Report shows **24.4 percent reduction in Motorcycle related fatalities** and about 13.6 percent reduction in overall motorcycle related crashes.




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**Conclusion**

- Motorcycle registration has been doubled in past 10 years in Florida.
- The proportion of motorcycle fatalities compared to all traffic fatalities reached an all time high of 17.8 percent in Florida
- The use of helmet is not required for riders in Florida
- Our initial study confirmed that the positive effect of the mandatory training law but further analysis will be recommended
- Recent motorcycle safety promotion efforts started to produce positive results




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