

Motorcycle Safety

The Colorado Department of
Transportation

November 2006



Facts from NHTSA

- Motorcycles are more likely to be involved in a fatal collision with a fixed object than are other vehicles
- Helmets are estimated to be 29% effective in preventing fatal injuries and 67% effective in preventing brain injuries
- While 20% of passenger vehicle crashes result in injury or death, an astounding 80% of motorcycle crashes result in injury or death

Facts from NHTSA

- Motorcyclist fatalities have increased each year since reaching an historic low of 2,116 fatalities in 1997. In 2001, 3,181 motorcyclists were killed, an increase of over 50% between 1997 and 2001. Without this increase, overall highway fatalities would have experienced a marked reduction of about 2.5% over this same time period.

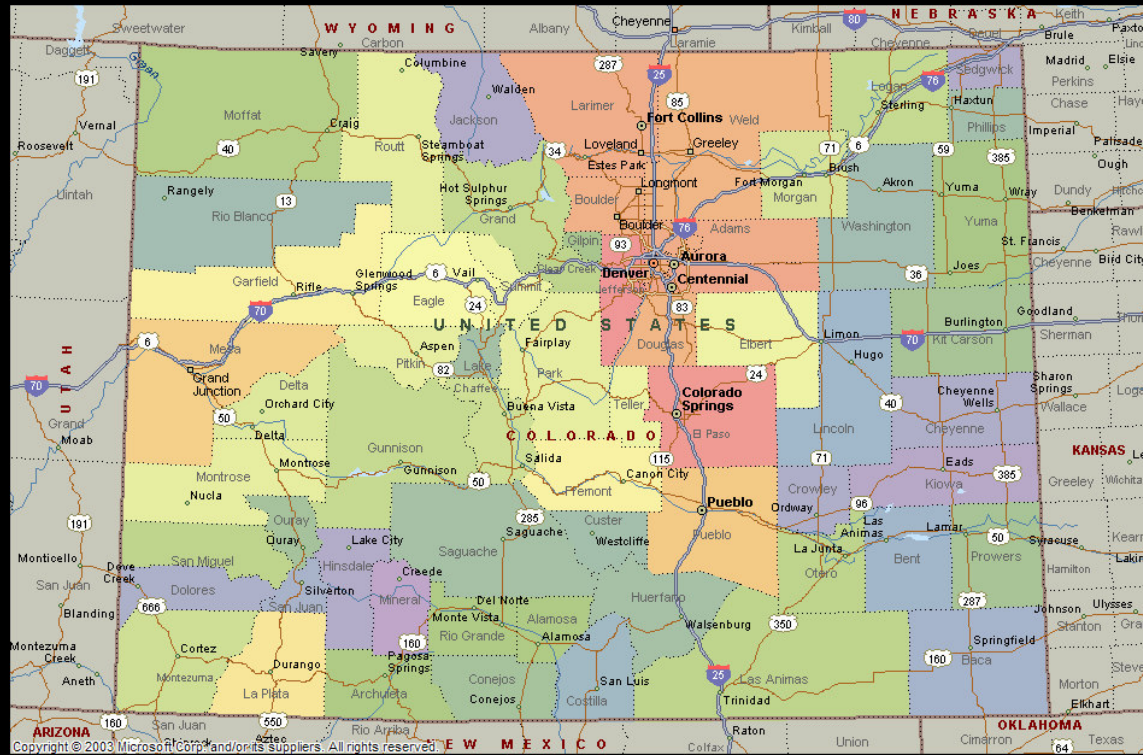
Registrations and Driver License Activity

- Motorcycle registrations in Colorado have increased from 95,439 in 1975 to 140,440 in 2005
- Motorcycle Endorsements
 - 2000: 12,025
 - 2001: 51,647
 - 2002: 80,210
 - 2003: 91,847
 - 2004: 41,698
 - 2005: 74,424

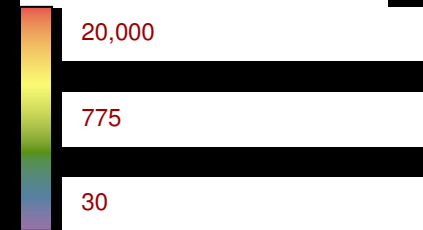
Motorcycle Demographics Survey

- Provides a profile of the geography of motorcycle and scooter ownership in Colorado
 - Conducted in the summer of 2006

Key Findings



Total Motorcycles by County



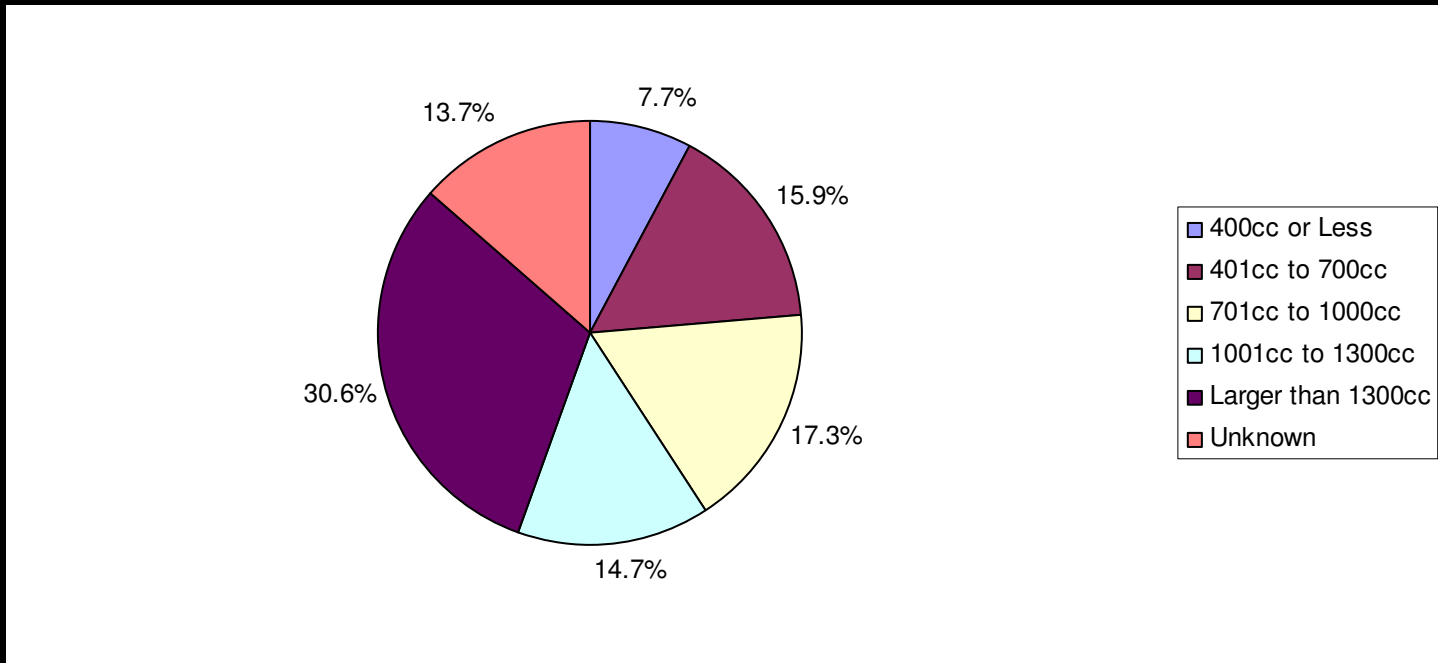
Key Findings

- Ownership of motorcycles is concentrated in a few geographic areas. Jefferson and El Paso counties combined hold more than 25% of the state's motorcycles, while the combination of Jefferson, El Paso, Arapahoe, Adams and Larimer hold almost exactly half of the state's motorcycles.

Other Key Findings

- Small rural counties in Western Colorado have the most motorcycles per capita in the state.
- Rural Eastern Plains Counties had the greatest percentage of “large” motorcycles within their boundaries.
- Motorcycles in urban counties are more likely to be newer (2001 or younger)

Motorcycles by size



Motorcycle Brands

Make Name	Total	Percent of Total
HONDA	5789	25.6%
HARLEY-DAVIDSON	4808	21.3%
YAMAHA	3071	13.6%
KAWASAKI	2903	12.8%
SUZUKI	2371	10.5%
BMW	1411	6.2%
TRIUMPH	426	1.9%
DUCATI	400	1.8%
KTM	316	1.4%
BUELL	254	1.1%
POLARIS	161	0.7%
INDIAN	129	0.6%
APRILIA	117	0.5%
BIG DOG	115	0.5%
OTHER MOTORCYCLES	64	0.3%
AMERICAN IRON HORSE	51	0.2%
MOTO GUZZI	51	0.2%
ATK	42	0.2%
VESPA	42	0.2%
HUSABERG	26	0.1%
CAGIVA	24	0.1%
HUSQVARNA	18	0.1%
MTRRAD UND ZWEIRDWRK	17	0.1%
DERBY	4	0.0%
ZONGSHEN AMERICA	2	0.0%

Baseline Survey of Attitudes Toward Motorcycles

- Statewide random survey to examine public opinions regarding motorcycles and motorcyclists
 - Conducted in July and September of 2006 as part of a larger DUI campaign survey
 - Did not include motorcyclists except to the extent they naturally occurred in the random sample

Key Findings

- **Motorcycles are a common secondary means of transportation.** While only about one percent of Colorado residents use a motorcycle as their primary means of transportation, 1 percent have ridden some type of motorcycle or scooter in the past 30 days.
 - Male respondents under 35 were most likely (2%) were most likely to ride a motorcycle as their primary vehicle
- **The most common motorcycle usage is riding small off-road bikes.** Riding off-road motorcycles smaller than 600cc was the most common type of motorcycle usage in the last 30 days. Road motorcycles, both large and small were slightly behind small off-road motorcycles in terms of usage.
 - Young males (under 35) were most likely to have ridden a “large” motorcycle on public roadways
- **Respondents believed that riders of sport motorcycles were the least safe of all riders.** Seventy percent of respondents believed that riders of sport motorcycles (i.e. Ninja style) were unsafe compared to riders of other styles of motorcycles. At least one half of the respondents considered other types of riders to be at least somewhat safe. This was a very large difference in opinion.
 - The safest riders were considered to be riders of touring bikes, cruisers and standard motorcycles

Key Findings

- **Respondents (55%) believed that motorcycle riders are more likely to drive safely and defensively compared to drivers of vehicles.** When compared to drivers of other vehicles, motorcycle drivers were considered by the majority of respondents to be more likely to drive safely and defensively.
- **Drivers are more likely to assume blame by the car in a car-motorcycle crash.** When respondents were asked who's typically at fault in an accident, the majority indicated that it was equally split between driver and rider. However, those who did assign "typical" blame were more likely to blame the car by a three to one margin.
- **The majority of survey participants considered motorcycles a safe means of transportation, as well as believing that motorcycle riders operate their bikes in a safe manner.** The majority of respondents felt motorcycles were safe and that they were operated in a safe manner.
 - Nearly half of respondents at least somewhat agreed that they felt nervous driving near a motorcycle and indicated that they had difficulty spotting them.

Key Findings

- **Respondents believed that helmets and training were the most important elements for ensuring motorcyclist safety (more than 70%).** While the vast majority of respondents believed that wearing a helmet, as well as training, were the most important elements of rider safety, less than half actually believed riders received enough training. Young males were less likely than other subpopulations to see the value in every safety feature except loud pipes, though a majority of even this group saw a high or moderate value in all of the tested features (helmets, protective clothing, headlight modulators, training for motorcyclists, and strict enforcement of traffic laws for motorcyclists. Loud pipes were seen to be of high or moderate value by 46 percent of all respondents and 52 percent of young males.
- **Support for a helmet law was also high among respondents.** Sixty-four percent of respondents indicated they would strongly support a helmet law. An additional 16 percent would somewhat support a law.

Survey of Colorado Motorcyclists

- Purpose was to gather opinions and perceptions of motorcycle and scooter riders on a number of issues related to traffic safety, training and ridership
 - Conducted in September 2006

Key Findings

- **Cruisers were the most common type of bike owned.** Cruisers and touring bikes were the most common types of motorcycles ridden. Respondents were typically the rider, as opposed to the passenger, as well.
 - **The majority of respondents had ridden some type of motorcycle during the past 30 days and riding on public roadways was far more common than riding off-road**
- **Respondents were typically older males.** The majority of respondents were male and over the age of 44 (71%). More than half made \$50,000 or more annually.
- **Respondents primarily ride for fun.** The majority of respondents primarily ride their motorcycles for fun. Respondents only used their motorcycle for a small portion of their overall transportation. Smaller motorcycles riders were slightly more likely to use their motorcycle for transportation.

Key Findings

- **Respondents typically learned to ride at a young age and learned by teaching themselves or through a family member.** Nearly half of respondents began riding before they were legally able to drive. Another third learned between the ages of 16 and 25. Respondents most often learned to ride on their own, and/or with the assistance of a family member. *Less than one third of riders had taken additional instruction courses to improve their riding.*
 - Only 32% took a class or safety course to learn how to ride
 - 71% of respondents had not taken any additional courses to improve their riding (beyond what was necessary to earn their motorcycle license)
- **The vast majority of respondents either had a license or intended to get one.** Ninety-four percent of respondents had a motorcycle license. Of those who didn't, two thirds intended on getting their license in the future. Of those respondents who were already licensed, most did so by taking the written and driving tests at the Colorado Department of Revenue.
- **Respondents like to ride because it is exciting and fun.** The majority of respondents ride because it is fun and exciting (85 %). Forty two percent also agreed that they like the speed associated with riding. Practical reasons such as gas mileage, ease of parking, and other such reasons were typically secondary to the “fun factor”.

Key Findings

- **Nearly all respondents knew that Colorado didn't have a helmet law, and only about one-third would support such a law.** Respondents knew correctly that Colorado does not have a helmet law for motorcyclists, while also knowing that eye protection is required. When asked if they would support a helmet law, nearly half (49 percent) responded they would oppose it, while 33 percent would support it and 17 percent had no opinion. The primary reason for opposition was personal freedom, and to a much lesser extent, not believing that helmets are safe.
 - Despite significant opposition against a helmet law, approximately 90% of respondents indicated that a helmet law in Colorado would have no effect on the amount they rode.
- **While many respondents would oppose a helmet law, more than half indicated that they always wear a helmet.** Sixty-two percent of respondents indicated that they always wear a helmet. Only 9 percent said they never wore a helmet. Respondents who don't always wear a helmet cited as reasons the freedom of not wearing a helmet, concerns about helmet safety, and not wearing a helmet when they are going only short distances.
 - Riders of smaller bikes were more likely to always wear a helmet.
- **Respondents believed that training was the most important element of safety.** Respondents indicated training for drivers and riders alike was the important safety element (75%). Protective clothing was also considered an important element, more so than helmets. To improve their visibility to drivers, riders most commonly try to stay out of blind spots and make sure their lighting is properly working.

Key Findings

- **Respondents recognize dangers associated with riding, but also believe that motorcycles are a safe form of transportation.** While respondents recognized that riding a motorcycle is more dangerous than driving a car, most still believed that motorcycles are a safe means of transportation.
 - Only 39% of the respondents believe motorcycle riders receive the training they need to drive safely.
- **Respondents felt that other drivers were their biggest threat to safety.** More than three quarters of respondents indicated that other drivers were the single biggest threat to safety. Respondents also felt that motorcycle riders are more likely to drive safely and defensively, than compared to vehicle drivers, and that when an accident could be blamed on one specific party, it was typically the driver of the automobile's fault. *Only 3% indicated it is usually the motorcyclist's fault.*
 - 35% of respondents have had an accident on a public roadway on their motorcycle or scooter. Those with larger bikes were somewhat more likely to have been involved in an accident.

Statistics

■	YEAR	Crash	Severity			Totals	
■		PDO	Injury	Fatal	Crashes	Injuries	Fatalities
■	1995	250	1,141	43	1,434	1,354	45
■	1996	256	1,161	46	1,463	1,371	50
■	1997	307	1,040	36	1,383	548	37
■	1998	303	1,117	55	1,475	764	56
■	1999	310	1,189	56	1,555	1,408	60
■	2000	383	1,308	69	1,760	1,548	72
■	2001	403	1,419	79	1,901	1,624	83
■	2002	481	1,545	68	2,094	1,797	71
■	2003	470	1,584	66	2,120	1,824	68
■	2004	523	1,712	79	2,314	1,912	79

Statistics

- From 1995 to 2004, 622 motorcycle riders or passengers were killed in traffic crashes
- 87.2% of those killed were male
- 90.9% were driving the motorcycle
- 38.3% of those killed were between the ages of 18 and 34
- 27.9% of those killed were between the ages of 35 and 44
- 30.8% of those killed were 45 years or older

Statistics

- Only 27.3% of those killed were wearing a helmet
- Alcohol was a factor in 43.2% of the motorcycle traffic deaths
- Motorcyclists were determined to be at fault in 66.5% of the fatal crashes
- 56.5% of the crashes did not involve another vehicle as the first harmful event
- The vast majority of those killed were caucasian

Campaign Recommendations

■ Focus Areas:

- Riding under the influence
- Training
- Helmets and protective gear

■ Target:

- Primary: 18-34 Caucasian male riders
- Secondary: 35-44 and over 44 Caucasian male riders
- Front Range with emphasis in the top 5 counties for motorcycle fatalities: El Paso, Denver, Jefferson, Adams and Boulder
- Larger motorcycles

Next Steps

- Review Existing Campaigns
 - Motorcycle Safety Foundation
 - Other states
 - Other motorcycle organizations
- Develop Strategic Communications Plan including key messages and possibly creative
 - Must be research-based and tested
- Stakeholder Outreach
- April/May Launch

Motorcycle Operator Safety Training Program

■ Program Goals:

- Reduce the number of alcohol related motorcycle crashes from 20 in 2005 to 13 in 2010
- Reduce the number of motorcycle crashes per 100,000 motorcycle registrations from the high of 19.0 in 2002 to 15.0 by 2008

Overall Program Objectives

- Motorcycle Safety Training:
 - Increase the number of students taking both the Beginning Rider Course and the Experienced Rider Course by:
 - Increasing the number of training contractors
 - Increasing the number of training ranges
 - Increasing the number of instructors

Program Budget and Measurement

- Annual program revenues are currently about \$560,000
- 85% is expended for student tuition reimbursement, operational range costs, student workbooks and promotional materials
- 15% is expended on administrative costs

MOST Contractors

- Rider Training Enterprises, Pueblo
- TR3G, Denver
- Don Cronk, Craig
- Iron Buffalo Enterprises, Idaho Springs
- S/W Colo. Motorcycle Safety Training, Dolores
- ABATE of Colo., Denver
- Ricky Orlando Motorcycle School, Erie
- Colo. Northwest Rider Training, Fruita
- Motorcycle Rider Training Center, Morrison
- Wheels In Motion Inc., Colorado Springs
- Rocky Mountain Motorcycle School, Niwot

Task Number 07-07-71-02

Operation Save a Life/ABATE of Colorado

Problem:

Motorcycle fatalities nationwide accounted for 7% of the total alcohol related vehicle crash fatalities while motorcycles make up only 2% of the registered vehicles. Alcohol related motorcycle crashes in Colorado account for 26% of the total.

Goal:

To reduce the number of alcohol related motorcycle crashes, injuries and fatalities in Colorado.

Target audience:

- Users of Colorado highways.

Activities:

- Rider impaired driving education
- Peer presentations
- Event presentations
- Motorcycle safety events
- Purchased media advertising

Evaluation Measures:

- Number of presentations, attendees, events, and media events
- Track number of alcohol related motorcycle crashes, injuries and fatalities
- Track number of motorcyclists arrested for DUI

Task Number 07-07-71-02

Operation Save a Life/ABATE of Colorado

- Task Number 07-07-71-02
- Program Name Operation Save A Life/ABATE
- Contractor ABATE of Colorado
- Program Manager Rick Davis
 - Motorcycle fatalities nationwide accounted for 7% of the total alcohol related vehicle crash fatalities while motorcycles make up only 2% of registered vehicles. Alcohol related motorcycle crashes in Colorado account for 26% percent of the total.
- Evaluation Measure
 - Number of presentations, attendees, events, media events.
 - Track number of alcohol related motorcycle crashes, injuries and fatalities and number of motorcyclists arrested for DUI.
- Funding Source 410
- Program Area Motorcycle safety
- Capital Equipment none
- Performance Measures 1,2,6

Cost Summary	
Personal Services	
Operating Expenses	\$25,440
Travel	\$1960
Capital Equipment	
Contractual Services	\$4,400
Other (Media)	\$5,800
Total	\$38,000
CDOT Funds	\$38,000
Agency Funds	\$7,740
Total	\$45,740
Local Benefit	\$38,000