Motorcycle Fatalities in Washington State

Statistics, Trends, and Patterns
Motorcycle Fatal Collisions

- Motorcycle fatalities in Washington State follow some predictable patterns.
- We will look for patterns in climatic conditions, training curriculums, endorsement status, and behavioral activities of those in fatal motorcycle collisions
- Much of the data encompasses records from 2005 through mid 2012...about 580 records total
Population Review

- First, we’ll see how many endorsements and registrations we have statewide and how that’s changed over time.
Motorcycle Fatal Collisions

- What does the history of motorcycle collisions tell us?
- August has shown the largest fatality count 6 out of the last 8 years and the other 2 were July
Motorcycle Fatal Collisions

- What value is a pattern or trend?
- Are these consistent—can we expect things?
- Eight Year Review
  - Three measures of climactic conditions:
    - Rainfall
    - Dry Days
    - Temperature
Rainfall Patterns are Predictable

Monthly Motorcycle Fatalities and Rainfall
- 2005 MC Fatal
- 2005 Rainfall inches

Monthly Motorcycle Fatalities and Rainfall
- 2006 MC Fatal
- 2006 Rainfall inches

Monthly Motorcycle Fatalities and Rainfall
- 2007 MC Fatal
- 2007 Rainfall inches

Monthly Motorcycle Fatalities and Rainfall
- 2008 MC Fatal
- 2008 Rainfall inches
Rainfall Patterns are Predictable

Monthly Motorcycle Fatalities and Rainfall

2009 MC Fatals  2009 Rainfall inches

2010 MC Fatals  2010 Rainfall inches

2011 MC Fatals  2011 Rainfall inches

2012 MC Fatals  2012 Rainfall inches
Dry Days—Total dry days by Month

- **Total Dry Days**
  - Allows a predictable pattern to emerge
  - Patterns are pretty uniform each year
  - Fatalities follow weather patterns in Washington State

- **Average Monthly Temperature**
  - Also a factor in Washington motorcycle patterns
  - Fatal crashes follow warmer weather
Total Dry Days—More Predictable Outcomes

MC Fatalities/Total Dry Days per Month

- Total Dry Days
- MC Fatalities
- 2 per. Mov. Avg. (Total Dry Days)

Graph showing the relationship between total dry days and MC fatalities per month from 2005 to 2012.
Average Monthly Temperature—Predictable

2005 MC Fatalities and Average Monthly High Temperature

2006 MC Fatalities and Average Monthly High Temperature

2007 MC Fatalities and Average Monthly High Temperature

2008 MC Fatalities and Average Monthly High Temperature
Average Monthly Temperature—Predictable

2009 MC Fatalities and Average Monthly High Temperature

- Observed High
- MC Fatalities

2010 MC Fatalities and Average Monthly High Temperature

- Observed High
- MC Fatalities

2011 MC Fatalities and Average Monthly High Temperature

- Observed High
- MC Fatalities

2012 MC Fatalities and Average Monthly High Temperature

- Observed High
- MC Fatalities
Climactic Conditions & The Perfect Storm

- Less rainfall = more motorcycle fatalities
- More total dry days = more fatalities
- Higher temperatures = more fatalities

- Summer 2012 was the hottest, driest, and had the most consecutive dry days in over 60 years, when Harry Truman was President (really)
- It was the “Perfect Storm” for motorcycle fatalities
- Let’s look at the people involved in those crashes
2012 Fatal Motorcycle Fatalities

- Currently, 60% of newly endorsed riders are trained by the Motorcycle Safety Program sanctioned schools.
- How many of the fatalities were endorsed?
- How many had been trained prior to endorsement?

Motorcycle Endorsement Status 2012 MC Fatalities

- MSP Trained and Endorsed: 25%
- Not Endorsed, Not Trained: 33%
- Other MSP Trained and Endorsed: 3%
- Not Trained, but Endorsed: 39%
2012 Fatal Motorcycle Fatalities

- Riding experience is a key factor
- Most victims were either unendorsed or novice riders

Years of Riding Experience
2012 MC Fatalities

- Unknown (Unendorsed): 34%
- 0 to 2 years: 33%
- 3 to 5 years: 11%
- 6 to 10 years: 8%
- 11 to 15 years: 3%
- 16 to 20 years: 3%
- 21+ years: 7%
General Endorsed Motorcycle Population

- How does experience look for all endorsed riders?

[Bar chart showing distribution of years of riding experience for all endorsed riders]

<table>
<thead>
<tr>
<th>Years of Riding Experience</th>
<th>Non-Endorsed Rider Population</th>
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<tbody>
<tr>
<td>0 to 2</td>
<td>22%</td>
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[Unknown (Unendorsed) rider population unknown]
2012 Fatal Motorcycle Fatalities

- Age is another key factor
- Youth seem to be over-represented
2005 through mid 2012 Fatalities

- Does the pattern hold up over time?
- Yes—but what about the youngest riders?

Percent by Age Group of MC Fatalities 2005 - mid 2012

- under 19: 4%
- 20 to 24: 15%
- 25 to 29: 12%
- 30 to 34: 11%
- 35 to 39: 9%
- 40 to 44: 9%
- 45 to 49: 10%
- 50 to 54: 11%
- 55 to 59: 9%
- 60 to 64: 6%
- 65 to 69: 3%
- 70+: 2%
Old and Young—Cruisers and Sports

- Who is riding what?
- Different riders—different problems

Percent of Fatalities by Age Group and MC Type
2005 - mid 2012

CRUISER
SPORT
General Endorsed Motorcycle Population

- How does age look for all endorsed riders?

**Age of Currently Endorsed Motorcycle Population Percent**

- 16 to 19: 1%
- 20 to 24: 4%
- 25 to 29: 8%
- 30 to 34: 9%
- 35 to 39: 10%
- 40 to 44: 12%
- 45 to 49: 15%
- 50 to 54: 18%
- 55 to 59: 19%
- 60 to 64: 14%
- 65 to 69: 13%
2012 Fatal Motorcycle Fatalities

- Violations:
  - 75% of the crash victims have prior violations
  - Speeding is the dominant repeat offence

![Violation Types Received 2012 MC Fatalities](chart.png)
Summary

- Summer 2012 was a bad time for motorcycle fatalities
- It also had all the characteristics that increase fatalities
- It appears to be a result of the “perfect storm”
- When the rains returned, the MC fatalities dropped off
- Ensuring that more riders are trained and endorsed would be a logical objective to reduce future fatalities
- Public outreach and education through the MSP and the traffic safety partners of WTSC, WSP, and DOT would be an appropriate course of action
- Contracted trainers/testers have an opportunity to change outcomes with their influence in the courses they teach and the information they share