

# Motorcycle Fatalities in Washington State

Statistics, Trends, and Patterns

# Motorcycle Fatal Collisions

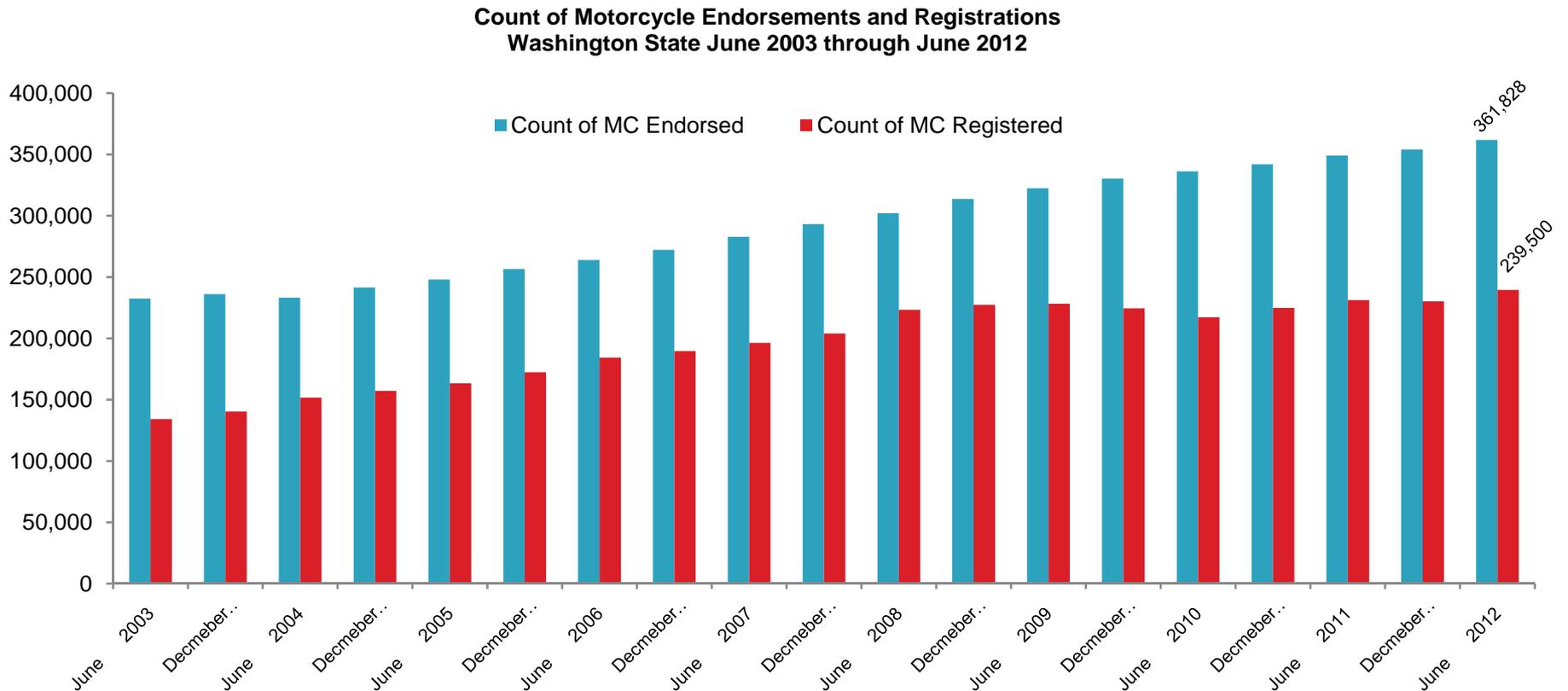
---

- ▶ 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



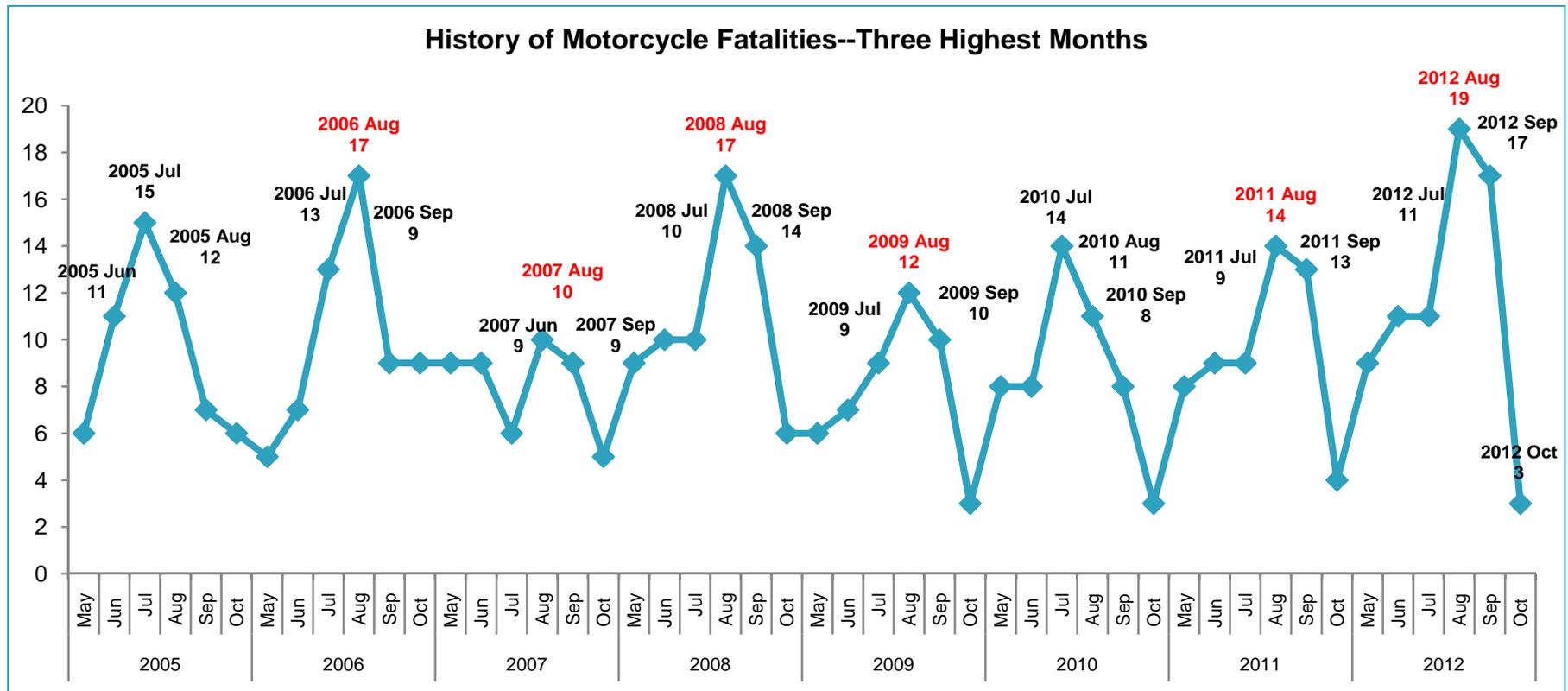
# Population Review

- ▶ 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

---

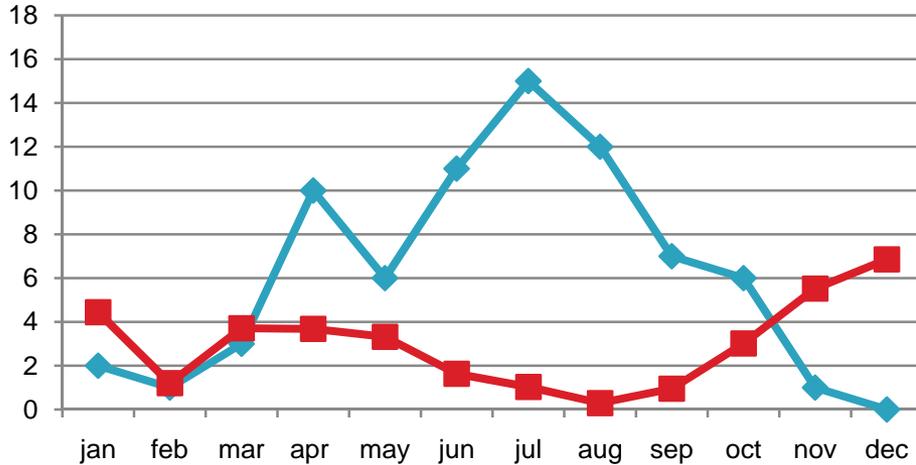
- ▶ What value is a pattern or trend?
- ▶ Are these consistent—can we expect things?
- ▶ Eight Year Review
  - ▶ Three measures of climactic conditions:
    - ▶ Rainfall
    - ▶ Dry Days
    - ▶ Temperature



# Rainfall Patterns are Predictable

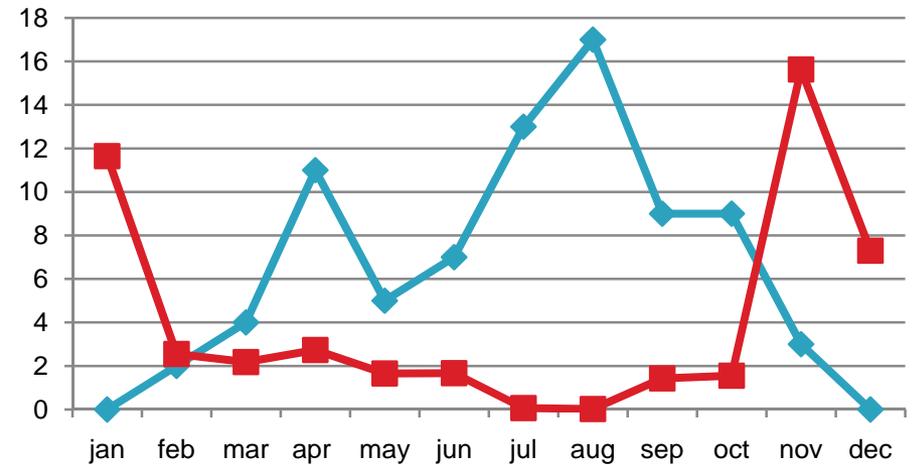
### Monthly Motorcycle Fatalities and Rainfall

2005 MC Fatalities 2005 Rainfall inches



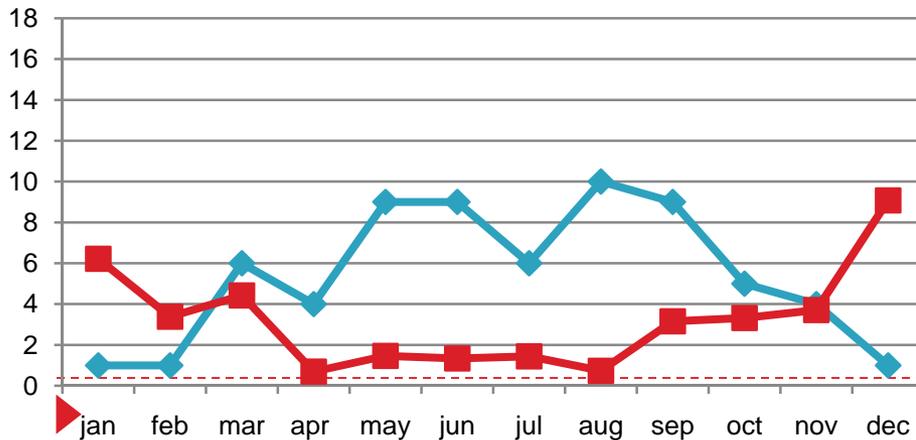
### Monthly Motorcycle Fatalities and Rainfall

2006 MC Fatalities 2006 Rainfall inches



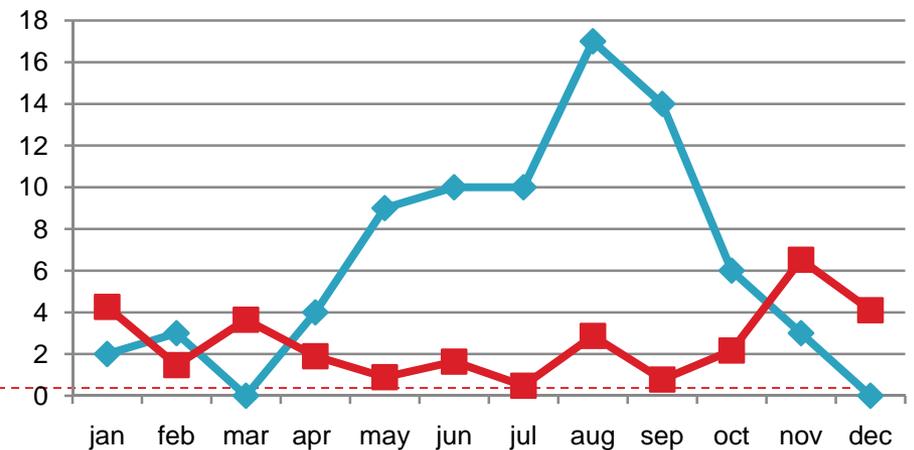
### Monthly Motorcycle Fatalities and Rainfall

2007 MC Fatalities 2007 Rainfall inches



### Monthly Motorcycle Fatalities and Rainfall

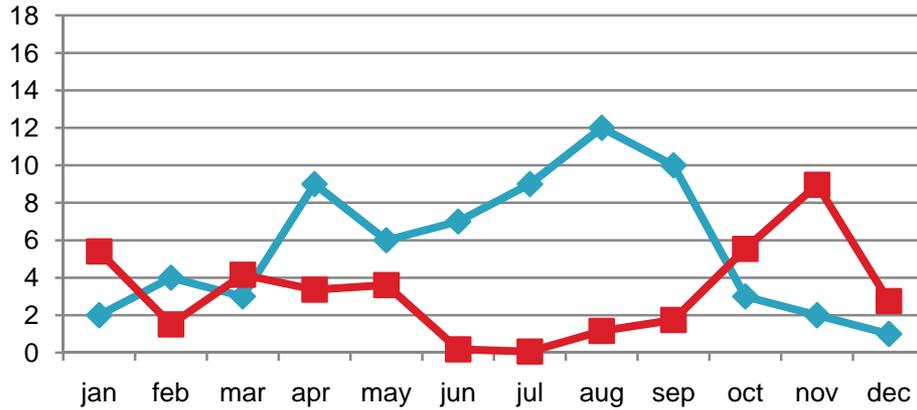
2008 MC Fatalities 2008 Rainfall inches



# Rainfall Patterns are Predictable

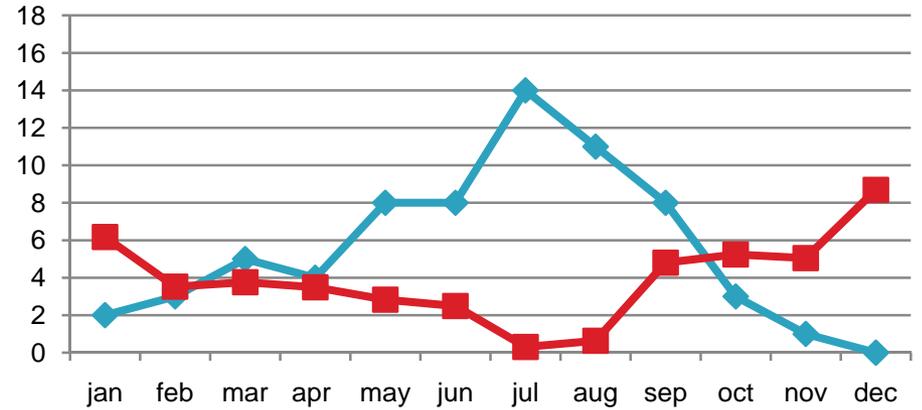
Monthly Motorcycle Fatalities and Rainfall

2009 MC Fatalis 2009 Rainfall inches



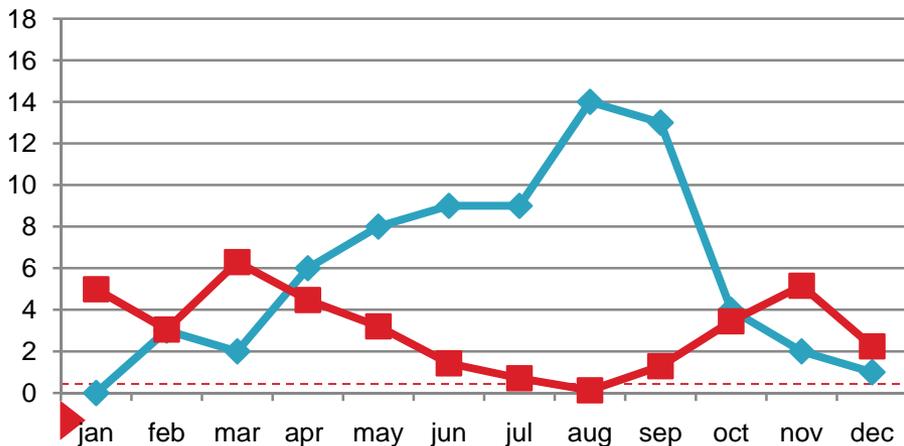
Monthly Motorcycle Fatalities and Rainfall

2010 MC Fatalis 2010 Rainfall inches



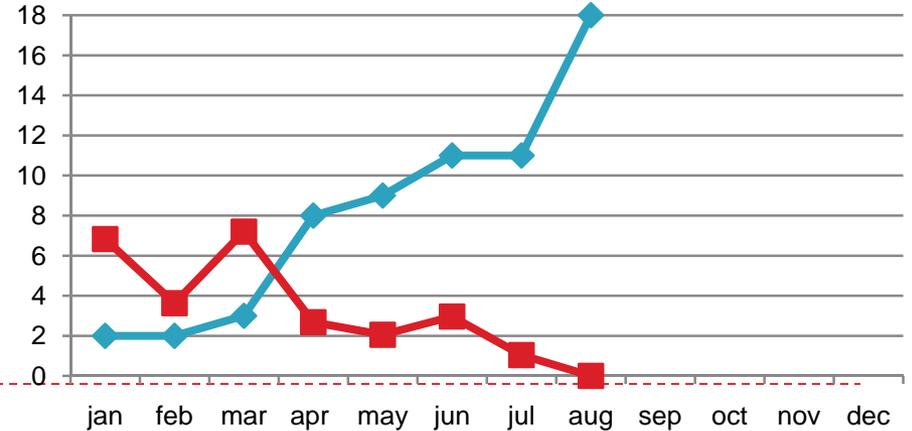
Monthly Motorcycle Fatalities and Rainfall

2011 MC Fatalis 2011 Rainfall inches



Monthly Motorcycle Fatalities and Rainfall

2012 MC Fatalis 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

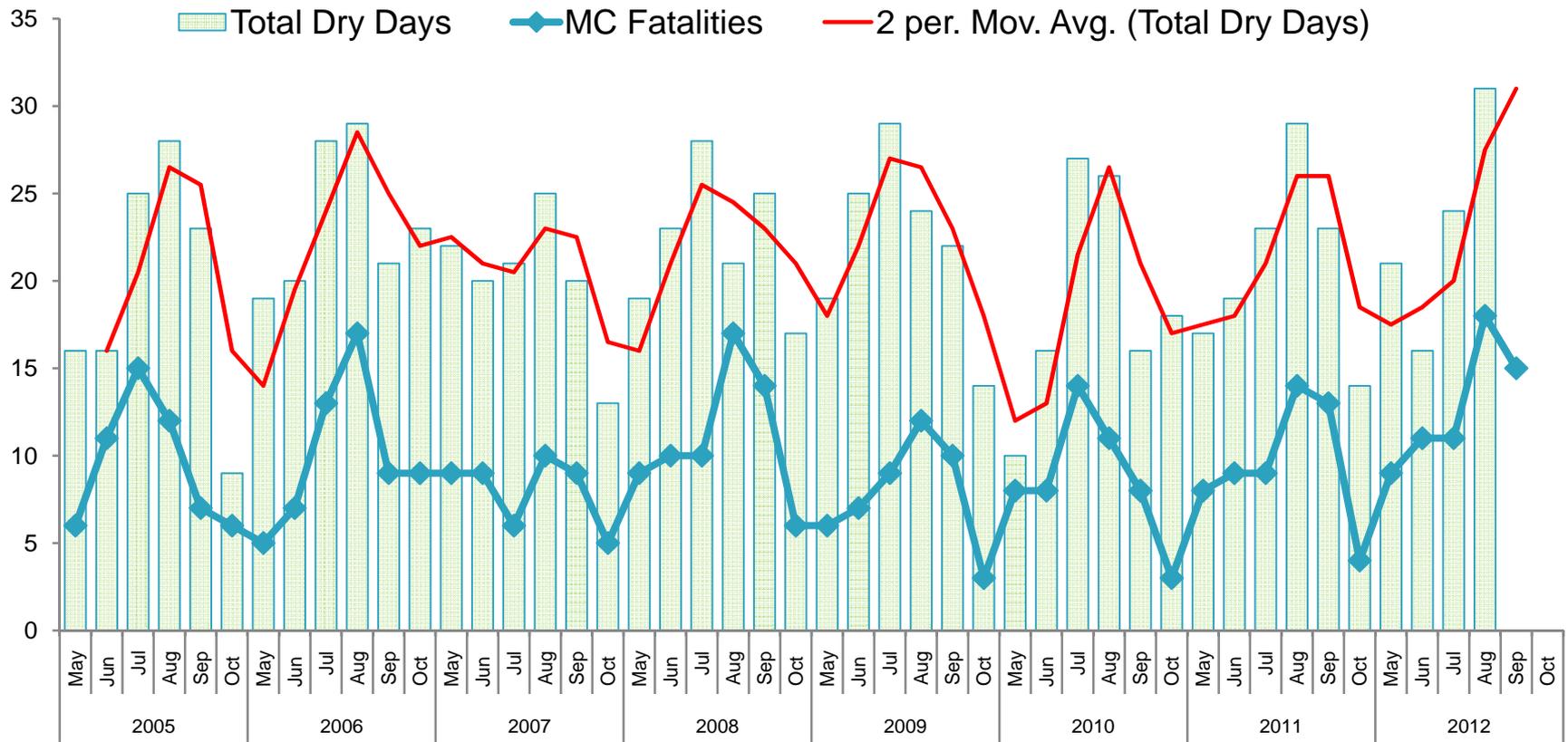
## ▶ Average Monthly Temperature

- ▶ Also a factor in Washington motorcycle patterns
- ▶ Fatal crashes follow warmer weather



# Total Dry Days—More Predictable Outcomes

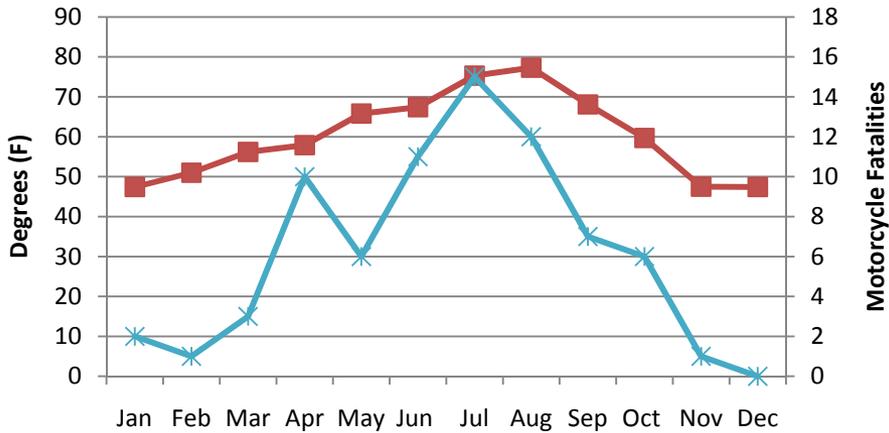
MC Fatalities/Total Dry Days per Month



# Average Monthly Temperature—Predictable

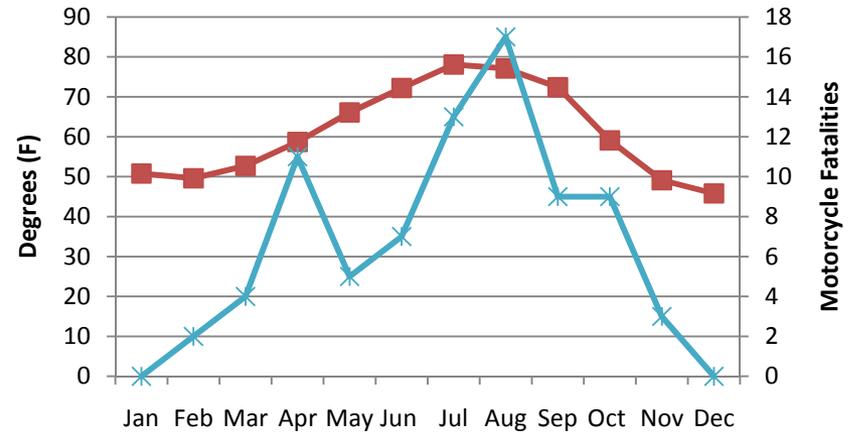
2005 MC Fatalities and Average Monthly High Temperature

Observed High MC Fatalities



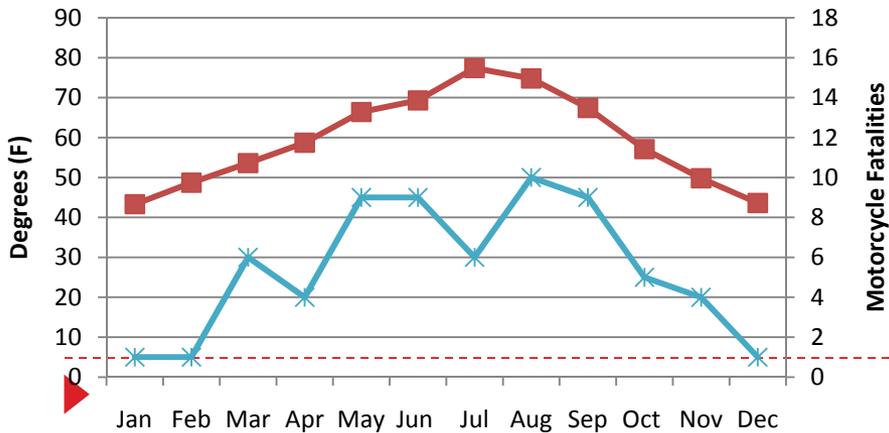
2006 MC Fatalities and Average Monthly High Temperature

Observed High MC Fatalities



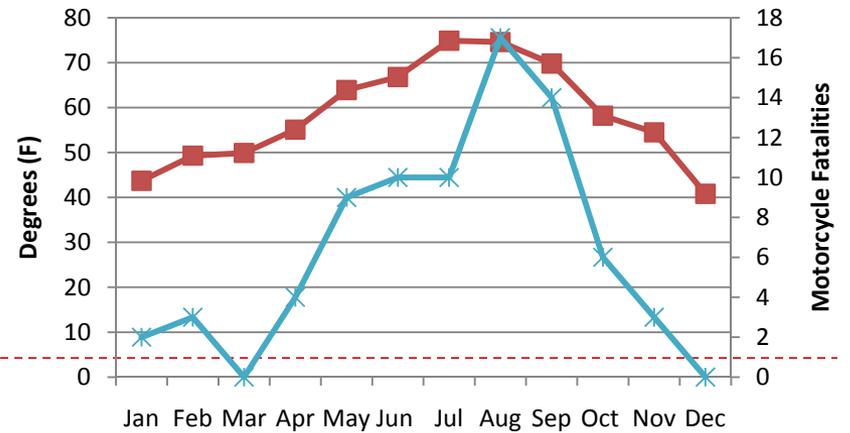
2007 MC Fatalities and Average Monthly High Temperature

Observed High MC Fatalities



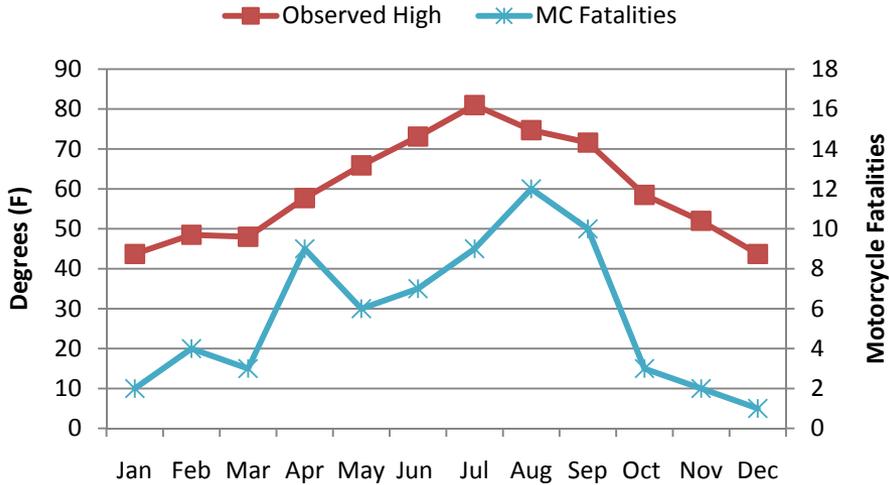
2008 MC Fatalities and Average Monthly High Temperature

Observed High MC Fatalities

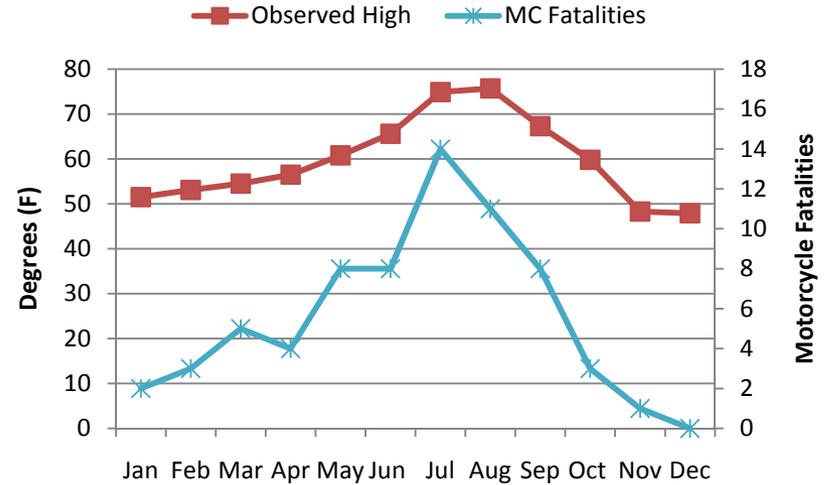


# Average Monthly Temperature—Predictable

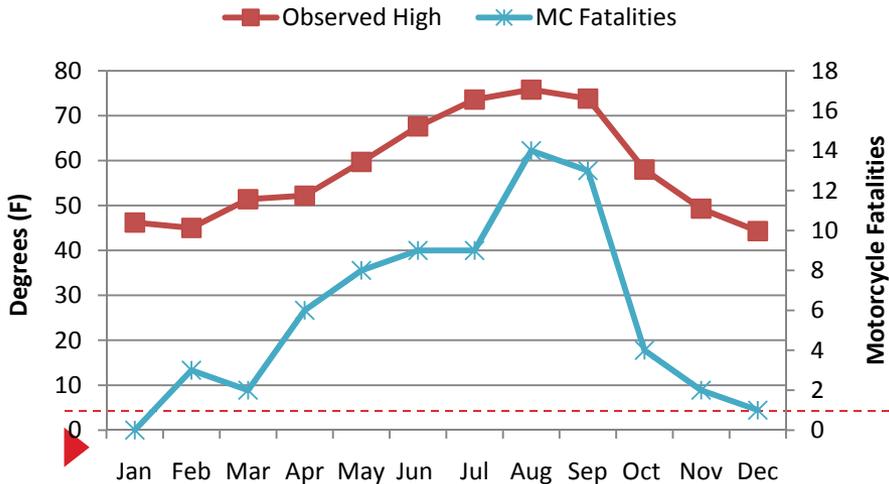
2009 MC Fatalities and Average Monthly High Temperature



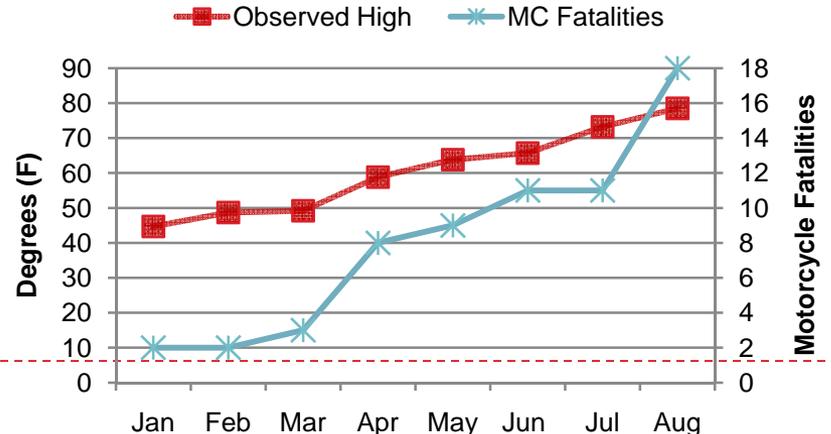
2010 MC Fatalities and Average Monthly High Temperature



2011 MC Fatalities and Average Monthly High Temperature



2012 MC Fatalities and Average Monthly High Temperature



# Climactic Conditions & The Perfect Storm

---

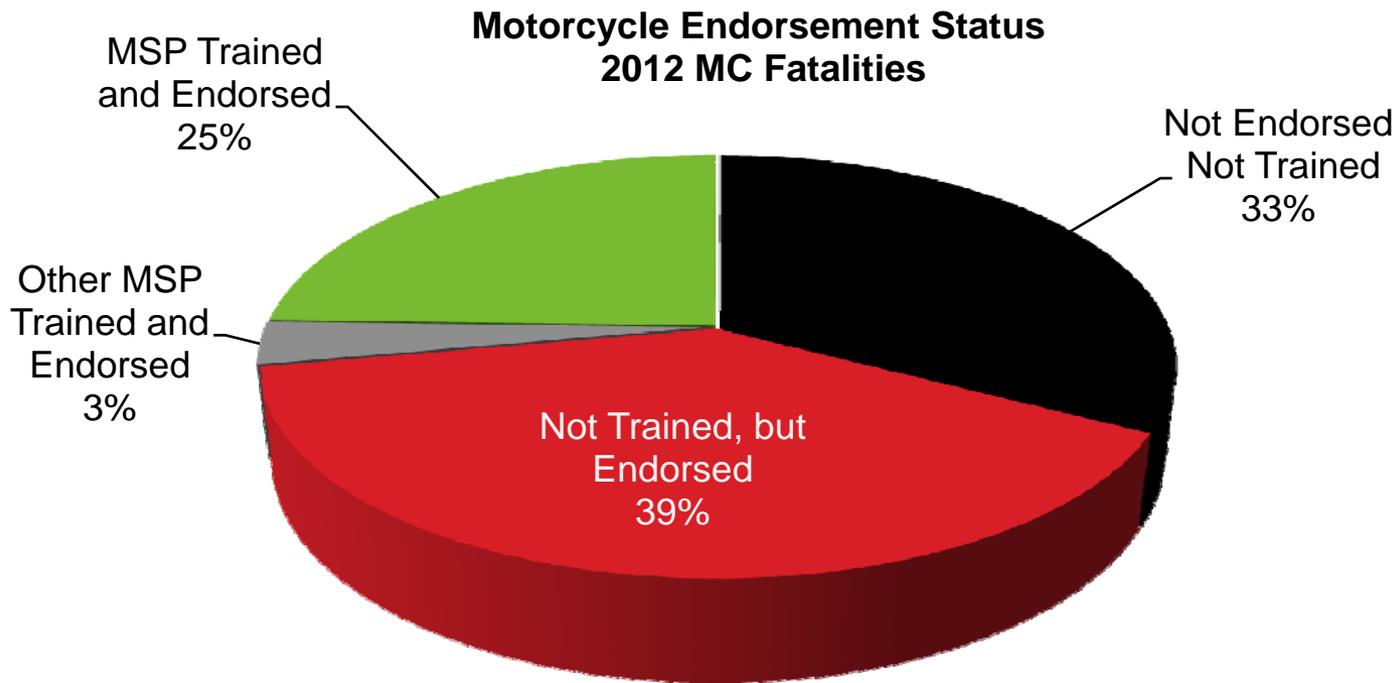
- ▶ Less rainfall = more motorcycle fatalities
- ▶ More total dry days = more fatalities
- ▶ Higher temperatures = more fatalities
  
- ▶ Summer 2012 was the hottest, driest, and had the most consecutive dry days in over 60 years, when Harry Truman was President (really)
- ▶ It was the “Perfect Storm” 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?

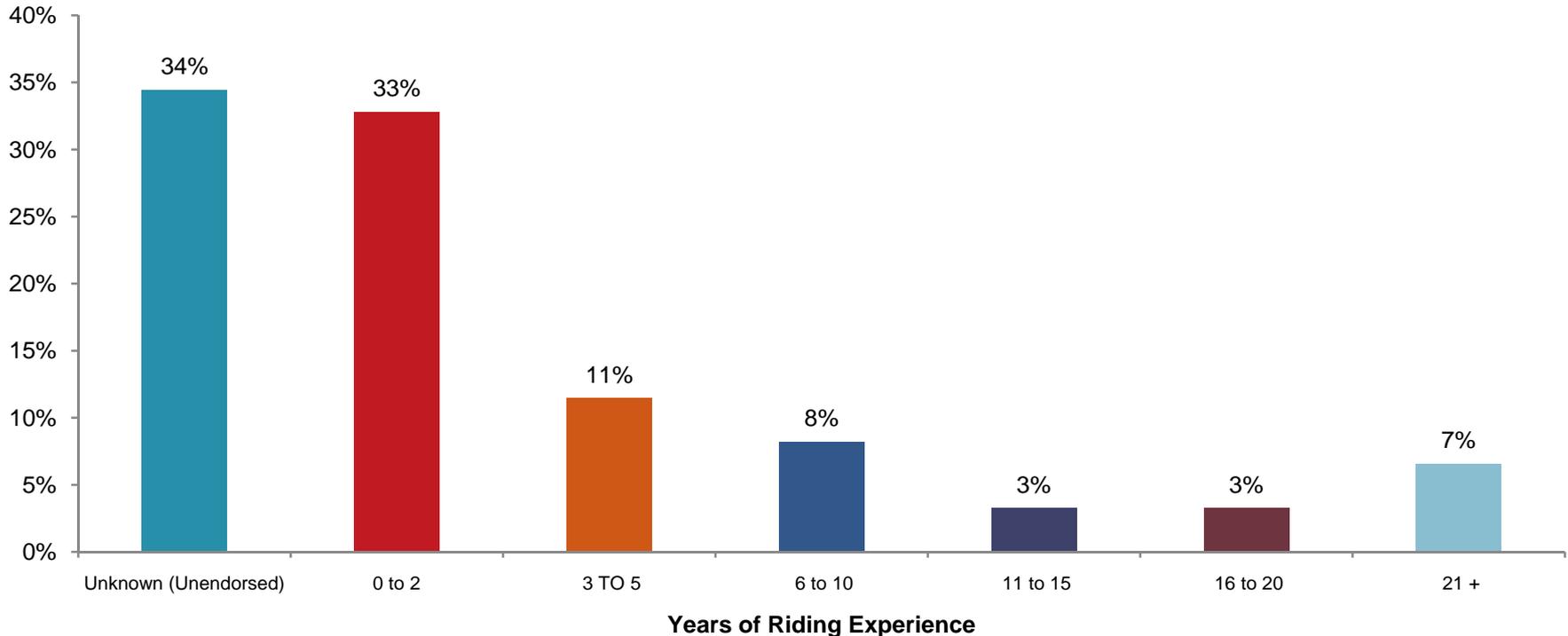


# 2012 Fatal Motorcycle Fatalities

---

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

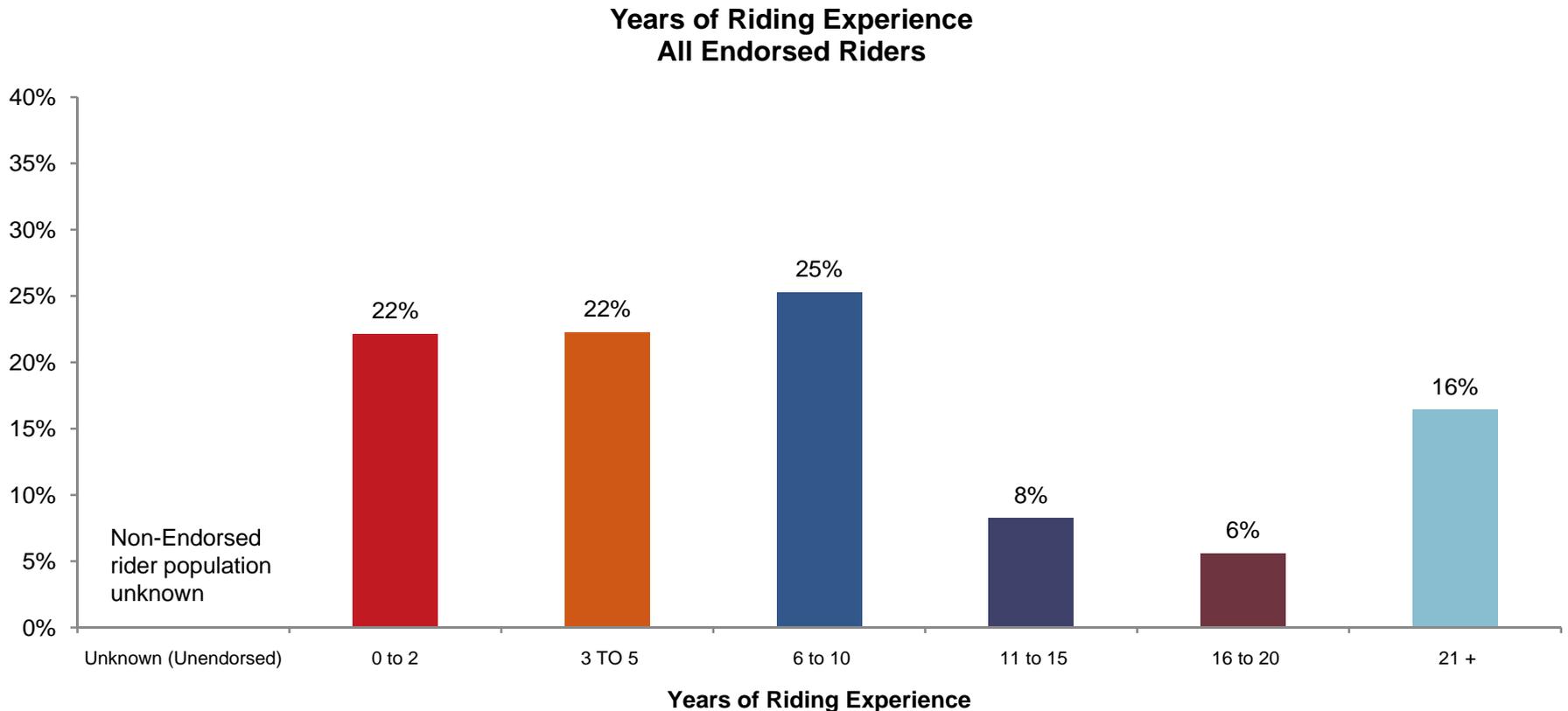
Years of Riding Experience  
2012 MC Fatalities



# General Endorsed Motorcycle Population

---

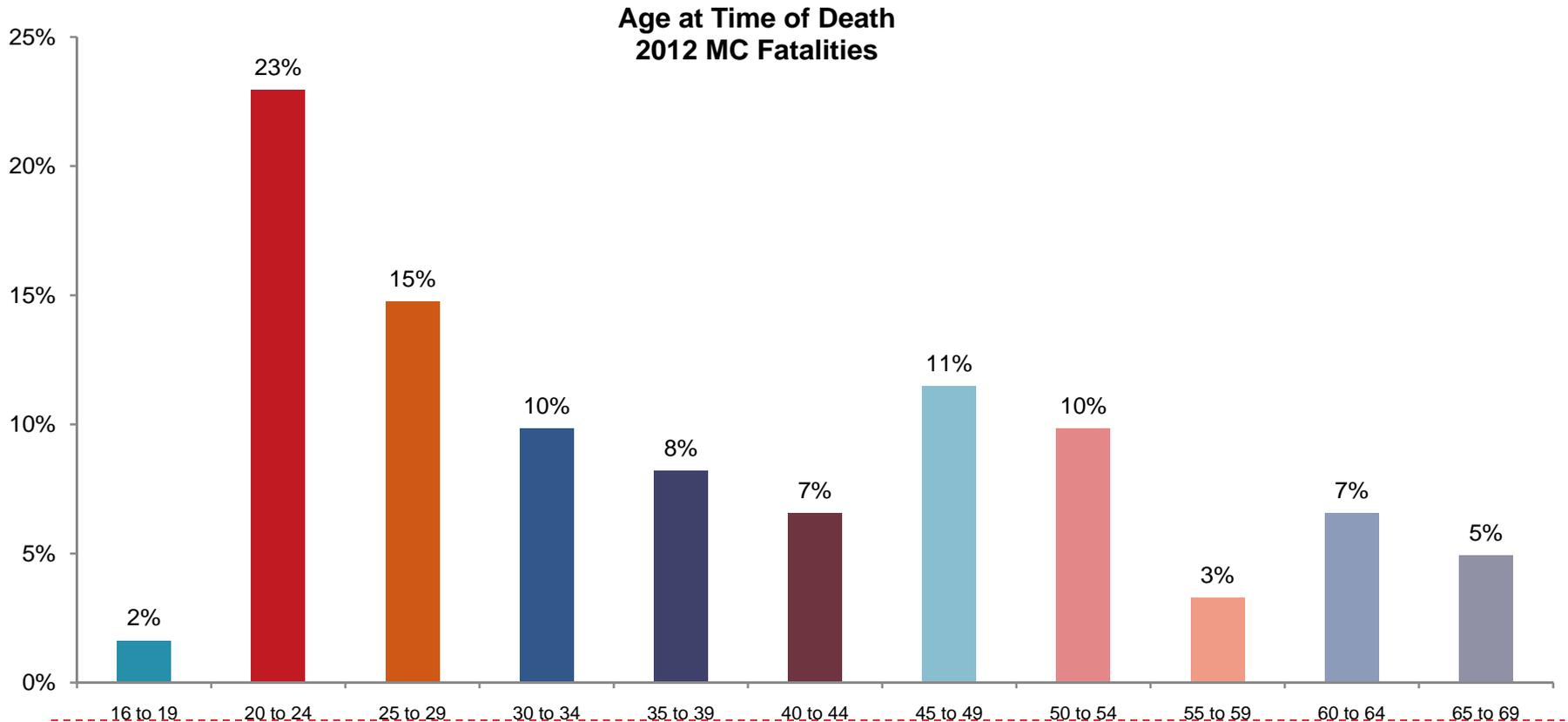
- ▶ How does experience look for all endorsed riders?



# 2012 Fatal Motorcycle Fatalities

---

- ▶ Age is another key factor
- ▶ Youth seem to be over-represented

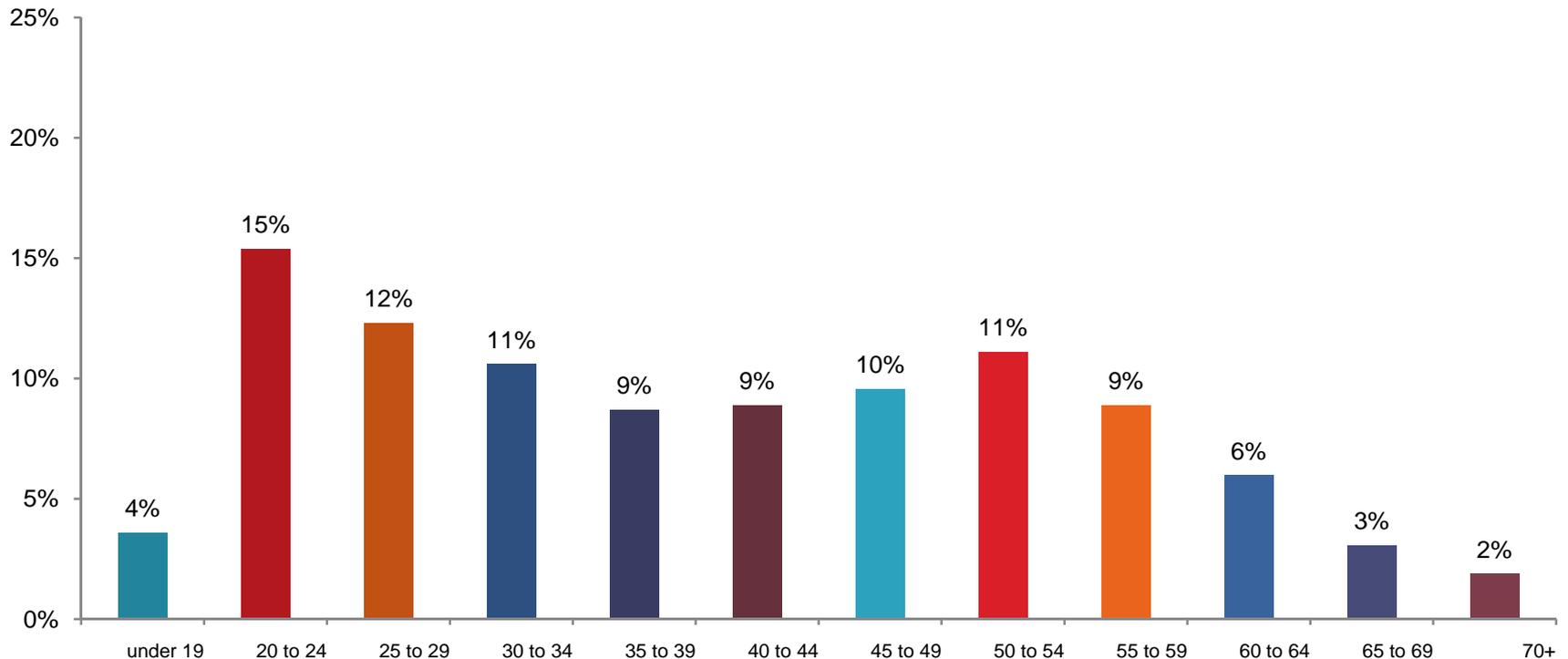


# 2005 through mid 2012 Fatalities

---

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

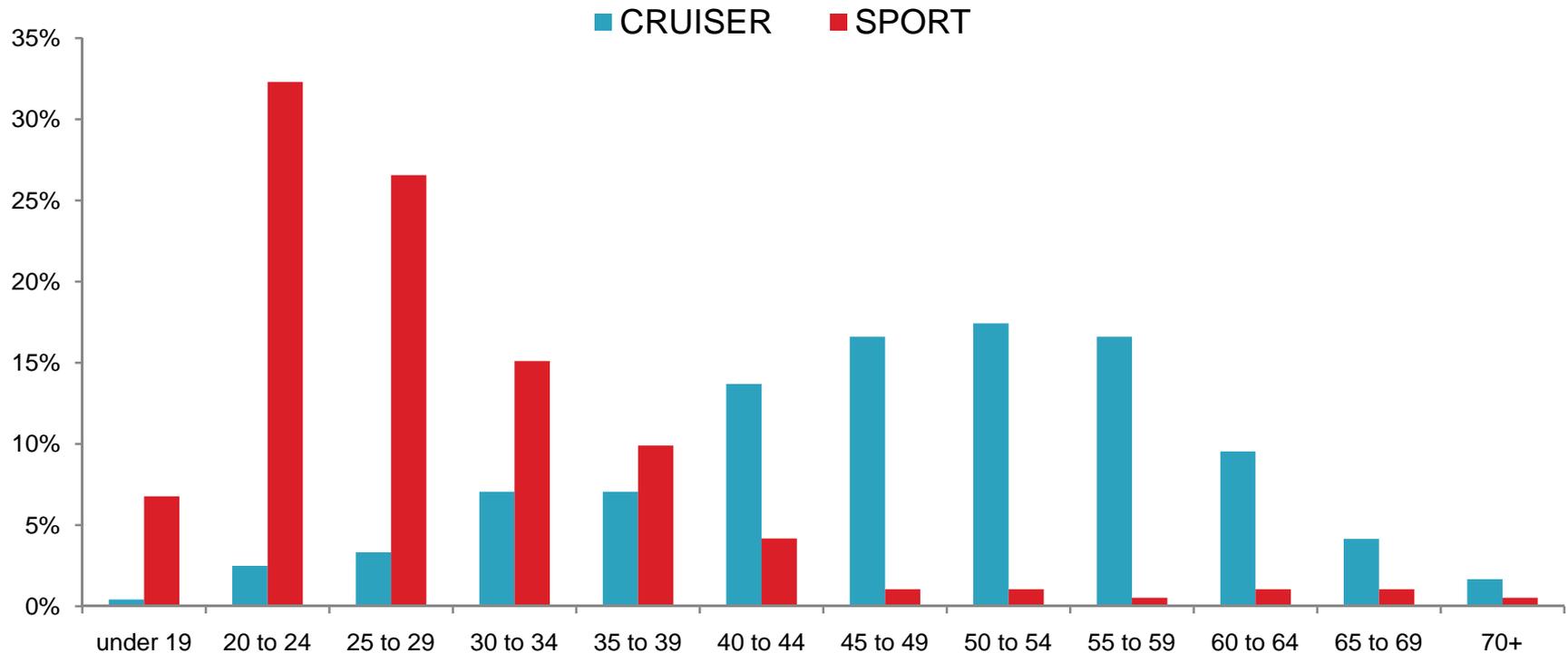
Percent by Age Group of MC Fatalities 2005 - mid 2012



# 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

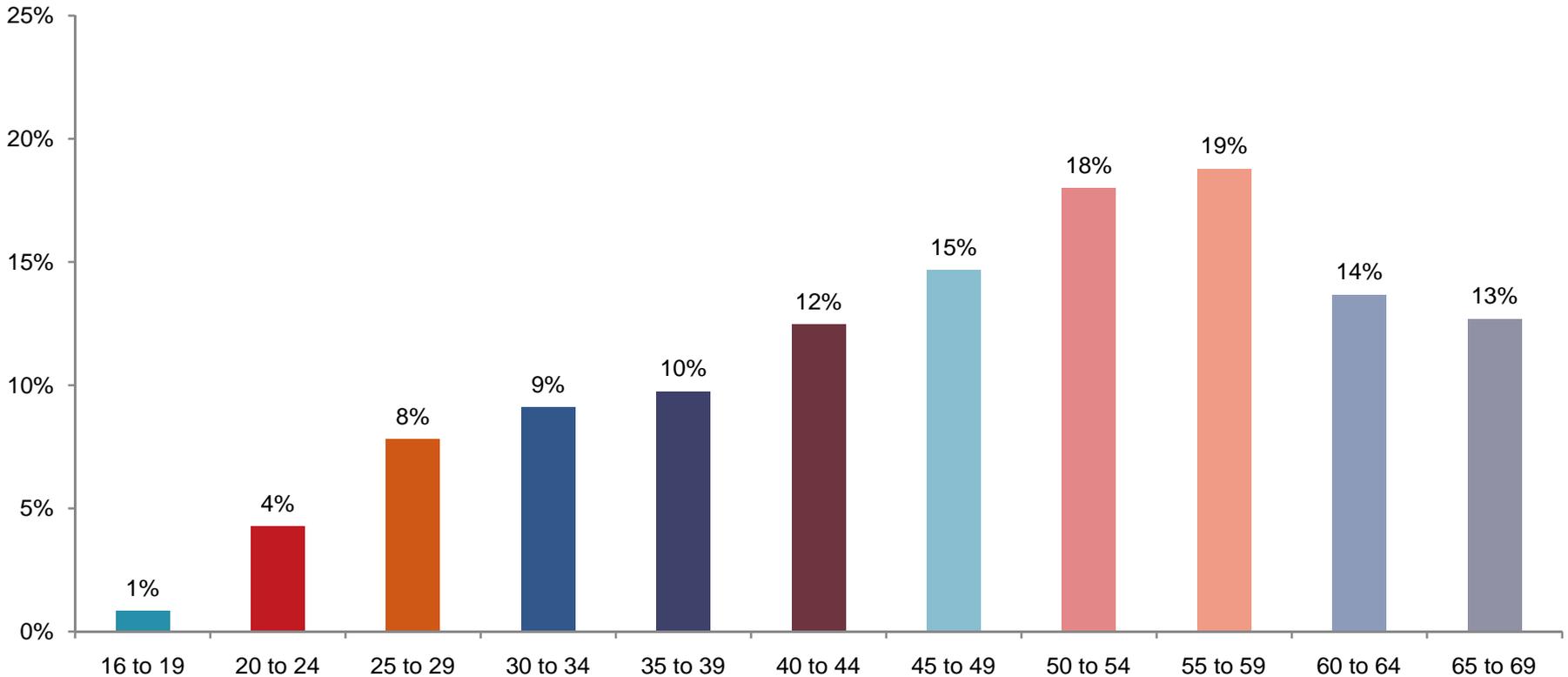


# General Endorsed Motorcycle Population

---

- ▶ How does age look for all endorsed riders?

Age of Currently Endorsed Motorcycle Population Percent

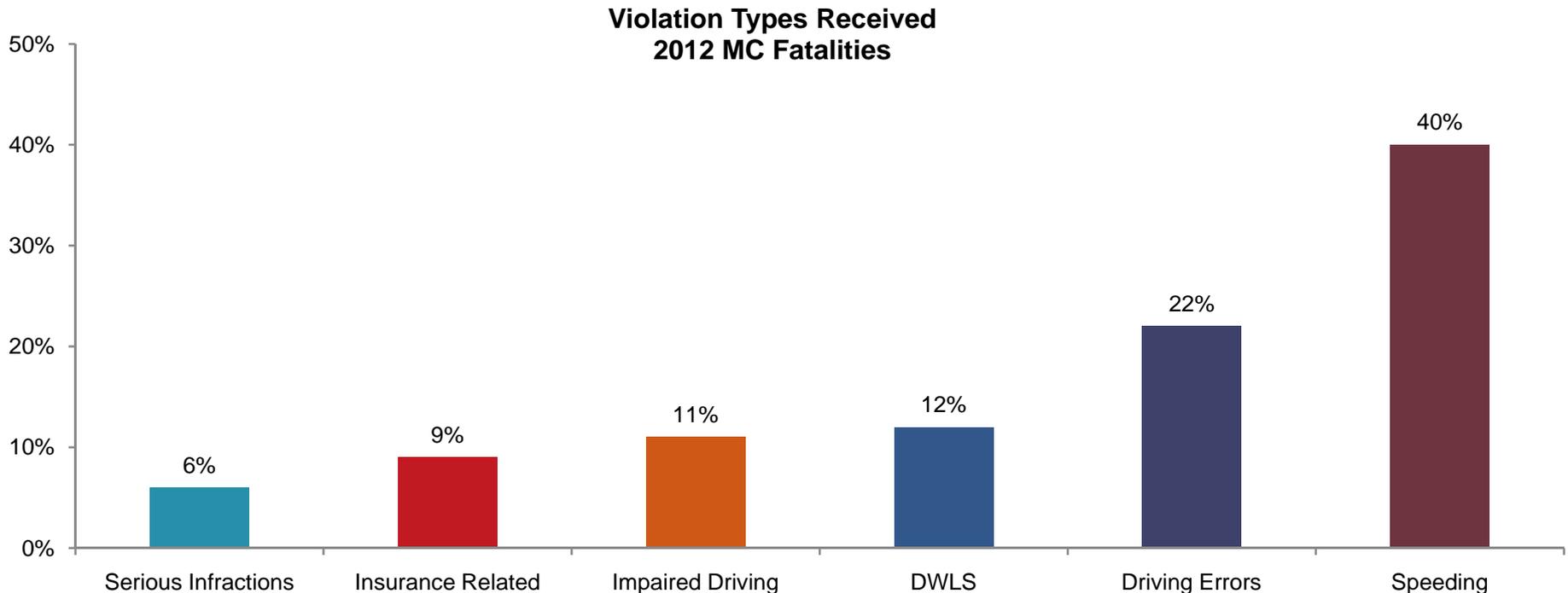


# 2012 Fatal Motorcycle Fatalities

---

## ▶ Violations:

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



# 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

