

Report Highlights

Motorcyclist Injuries and Fatalities Since the 2003 Repeal of the Mandatory Helmet Law (2008 Update)

House Resolution 349 directed the LB&FC to conduct two studies of reported motorcycle crashes and associated injuries and fatalities following the 2003 passage of the Helmet Repeal Law. One study was to cover the first two years following repeal (CY 2004-2005) and the other was to provide updated information for the next two years (CYs 2006 and 2007). Both studies were to answer the three specific questions posed in the resolution that are listed below. This is an update of our 2006 report.

Study Results (pp. S-1 to S-13):

- **1. How Many Motorcycle Crashes Were Reported in Pennsylvania?** Although the number of crashes involving motorcycles has been trending upward since 2000, the “crash rate” (i.e., number of crashes per 10,000 motorcycle registrations) has actually declined by nearly 15 percent. Reported crashes totaled 4,109 in CY 2007, a 44.6% increase over the 2000 level. Motorcycle registrations, however, have also been growing rapidly reaching a total of 363,109 in CY 2007, an increase of 69.2 percent since 2000.
- **2. How Many of the Individuals in Reported Motorcycle Crashes Were Wearing Helmets?** In CY 2007, there were 4,109 crashes involving 4,716 motorcyclists, 57.4 percent of whom were wearing a helmet. Over the full four-year period since repeal (2004-2007), 55.7 percent of the motorcyclists involved in a reported crash were wearing a helmet.
- **3. What Was the Increase, If Any, in the Motorcyclist Injuries and Fatalities Specifically Due to Head Trauma When Not Wearing a Helmet?** From existing data systems, it is not possible to determine how many motorcycle injuries and fatalities were specifically due to head trauma when not wearing a helmet. A multi-agency attempt to establish such linkages through the PA Crash Outcome Data Evaluation System (CODES) is continuing. In the absence of such data, we used data from PennDOT’s Crash Reporting System and the PA Trauma Systems Foundation’s Trauma Registry.

a. The PennDOT Crash Reporting System

Motorcyclist Fatalities: The average annual number of fatalities has increased from 138.7 in the three years prior to repeal (2000-2002) to 193.8 in the four years after repeal (2004-2007). However, when the number of registered motorcycles is taken into consideration, the av-

erage annual fatality rate for the four years after repeal of the Helmet Law (5.9 fatalities per 10,000 registered motorcycles) is the same as the average annual fatality rate for the three years prior to repeal (5.9 fatalities per 10,000 registered motorcycles).

Major Injuries: In CY 2007, 597 persons sustained a major injury as a result of a motorcycle crash. Of this number, 47.6 percent were helmeted. In the two years prior to the repeal, the average annual major injury rate was 18.6 injuries per 10,000 registered motorcycles. This compares to a rate of 19.0 major injuries per 10,000 registered motorcycles in CYs 2004 and 2005 and 16.7 major injuries per 10,000 registered motorcycles in CY 2006 and 2007.

b. The Statewide Trauma Registry

Motorcycles Crash Patients Admitted to Trauma Centers: The average number of motorcyclists admitted to trauma centers with a head injury was 15.0 per 10,000 motorcycle registrations in 2001 and 2002, the two years prior to the repeal. This average increased to 20.4 per 10,000 motorcycle registrations in 2004 and 2005 following the repeal but then declined to 18.5 per 10,000 motorcycle registrations in 2006 and 2007.

Head Injury Severity: The severity of head injuries suffered by motorcycle crash patients admitted to a trauma center are rated on a 1 (minor) to 6 (maximum) scale. In CY 2007, 290 motorcyclists sustained category 3 (serious), 4 (severe), or 5 (critical) head injuries. The overall average annual category 3, 4, or 5 injury rate for the four years after repeal was 8.6 head injuries per 10,000 motorcycle registrations compared to the three-year pre-repeal average of 5.9 head injuries per 10,000 motorcycle registrations.