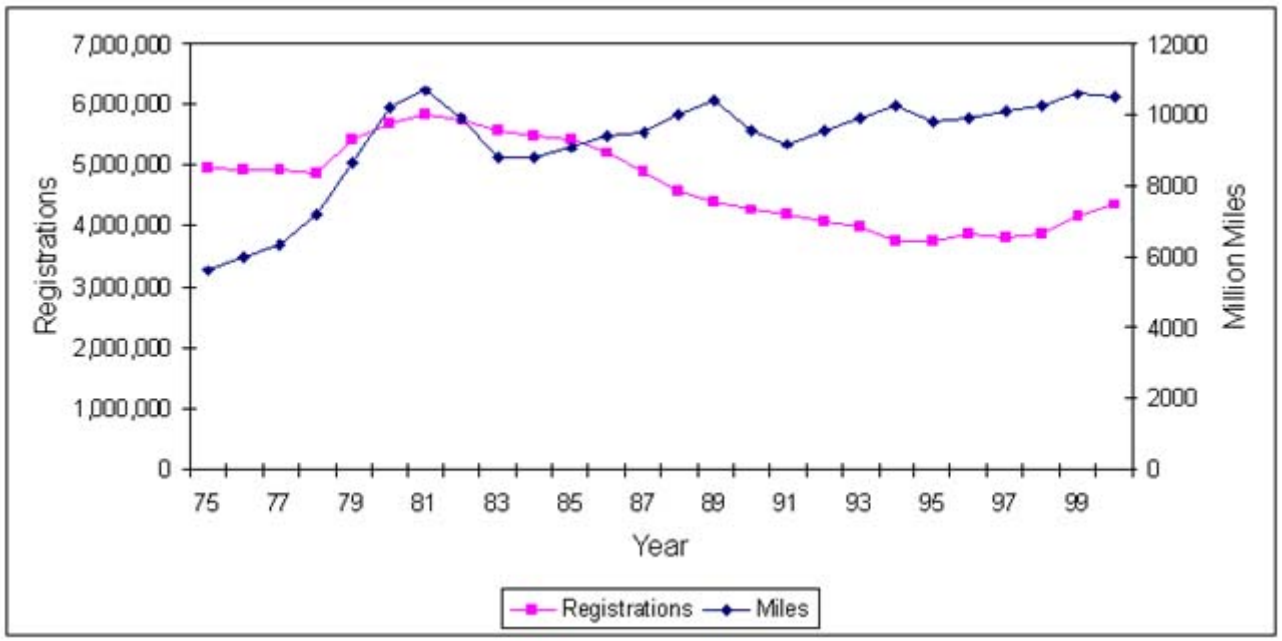
III. NATIONAL TRENDS

Motorcycle registration, travel, and casualty trends in the United States differ considerably from passenger vehicle trends. This chapter examines these trends briefly to provide context for the Kentucky and Louisiana experience.

REGISTRATIONS, TRAVEL AND FATALITIES

Table 1 lists the number of registered motorcycles reported for the United States in the years 1975 through 2000 and the estimated national annual miles of travel for motorcycles. Figure 6 shows the national trend data graphically.

Figure 6. U.S. Motorcycle Registrations and Miles of Travel, 1975-2000 (Source: FHWA)



Motorcycle registrations peaked in 1981 at 5.8 million then declined gradually but steadily until about 1994. Registrations have been increasing in more recent years. The year 2000 motorcycle registration level of approximately 4.3 million is 25 percent below the 1981 peak. Motorcycle travel has been increasing gradually during the past two decades. The average annual miles driven per registered motorcycle increased from 1,134 in 1975 to 1,833 in 1981 and to 2,411 in 2000. The smaller number of registered motorcycles and the larger annual mileage per motorcycle suggests that the typical motorcyclist in the year 2000 rides more miles than the typical motorcyclist 20 years ago.

FATALITIES AND INJURIES

Table 1 also gives the number of motorcyclists killed in the United States each year from 1975 to 2000 and the fatality rates per 10,000 registered motorcycles and per mile traveled. Figures 7 and 8 display the information graphically. Fatality data are from FARS using the body type code 80. This excludes mopeds and similar vehicles from the tabulations.

Figure 7. U.S. Motorcyclists Killed, 1975-2000 (Source: FARS)

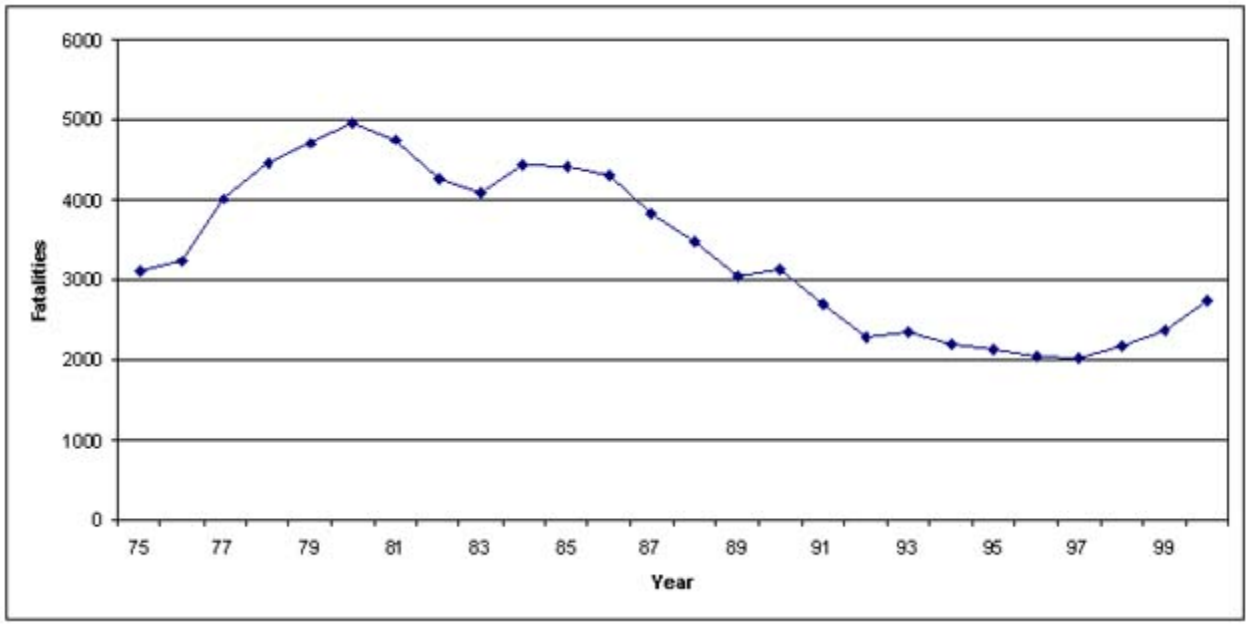


Figure 8. Motorcyclist's Fatality Rates, 1975-2000 (Source: FARS, FHWA)

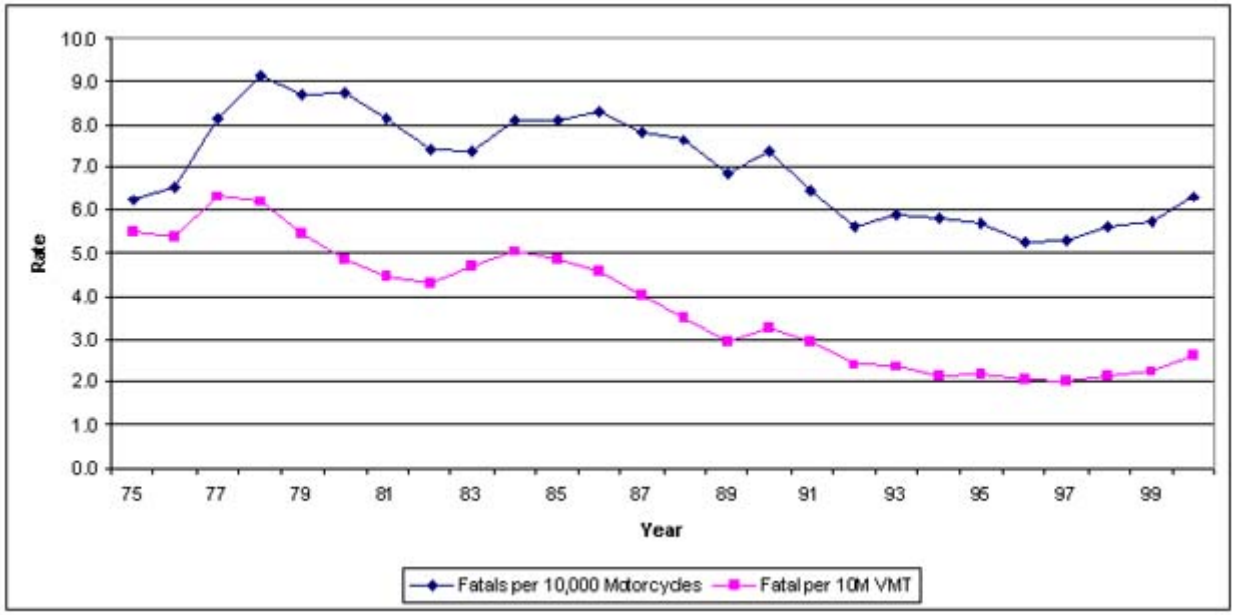


Table 1. U.S. Motorcycle Registrations and Travel, 1975-2000					
Year	Registrations - US	Travel - US (million miles)	Fatalities	Fatalities per 10,000 Registered	Fatalities per 10M VMT
1975	4,964,070	5,629	3,103	6.3	5.5
1976	4,933,332	6,003	3,233	6.6	5.4
1977	4,933,256	6,349	4,008	8.1	6.3
1978	4,867,855	7,158	4,451	9.1	6.2
1979	5,422,132	8,637	4,713	8.7	5.5
1980	5,693,940	10,214	4,961	8.7	4.9
1981	5,831,132	10,690	4,746	8.1	4.4
1982	5,753,858	9,910	4,270	7.4	4.3
1983	5,585,112	8,760	4,104	7.3	4.7
1984	5,479,822	8,784	4,431	8.1	5.0
1985	5,444,404	9,086	4,417	8.1	4.9
1986	5,198,993	9,397	4,309	8.3	4.6
1987	4,885,772	9,506	3,834	7.8	4.0
1988	4,584,284	10,024	3,492	7.6	3.5
1989	4,420,420	10,371	3,036	6.9	2.9
1990	4,259,462	9,557	3,129	7.3	3.3
1991	4,177,365	9,178	2,703	6.5	2.9
1992	4,065,118	9,557	2,291	5.6	2.4
1993	3,977,856	9,906	2,336	5.9	2.4
1994	3,756,555	10,240	2,190	5.8	2.1
1995	3,767,029	9,797	2,144	5.7	2.2
1996	3,871,599	9,920	2,046	5.3	2.1
1997	3,826,373	10,076	2,028	5.3	2.0
1998	3,879,450	10,260	2,186	5.6	2.1
1999	4,152,433	10,584	2,374	5.7	2.2
2000	4,346,068	10,479	2,747	6.3	2.6

Source: FHWA, FARS

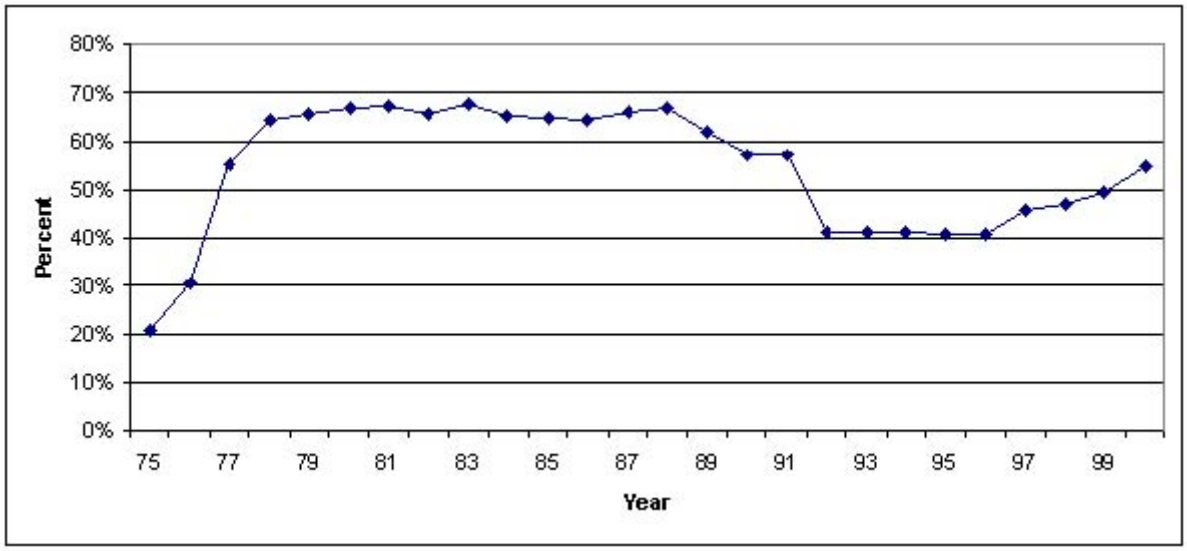
Table 1 and Figure 7 show that motorcyclist fatalities peaked in 1980, at about the same time that motorcycle registrations were highest, then generally declined over the next 15 years. However, fatalities have increased since the low of 2,028 recorded in 1997. Table 1 and Figure 8 show that fatality rates also peaked at about the same time (1977 for fatalities per miles of travel and 1978 for fatalities per registered motorcycles). Both rates generally declined into the 1990's but have also turned upward in more recent years.

NHTSA estimates the societal cost of a motor vehicle fatality to be in excess of $977000. The 2,747 motorcyclist killed in 2000 represent a cost to society in excess of 2.6 billion dollars.

Figure 6 showed that motorcycle registrations and miles of travel have been on the increase since 1997. The accompanying increase in fatality rates (Figure 8) suggests that the long term trend toward safer riding may be reversing.

Figure 9 charts the percentage of all US motorcycles that were registered in states that did *not* have a universal motorcycle helmet law in effect at year end over the 1975-2000 period. With the repeals of universal laws that were underway at the time, the percentage rose rapidly from approximately 20 percent in 1975 to 65 percent in 1978 and then remained at about this level until 1988. California's adoption of a universal helmet law in 1992 dropped the percentage of motorcycles registered in states without such a law to approximately 40 percent. Recent helmet law repeals have again raised the figure to more than 50 percent. Comparing Figures 7 and 9 suggests a substantial relationship between the national trends of motorcyclist fatalities and the percentage of motorcycles registered in states without a universal helmet law.

Figure 9. Percent of Registered Motorcycles Not Covered by a Universal Helmet Law (Source: NHTSA, FHWA)



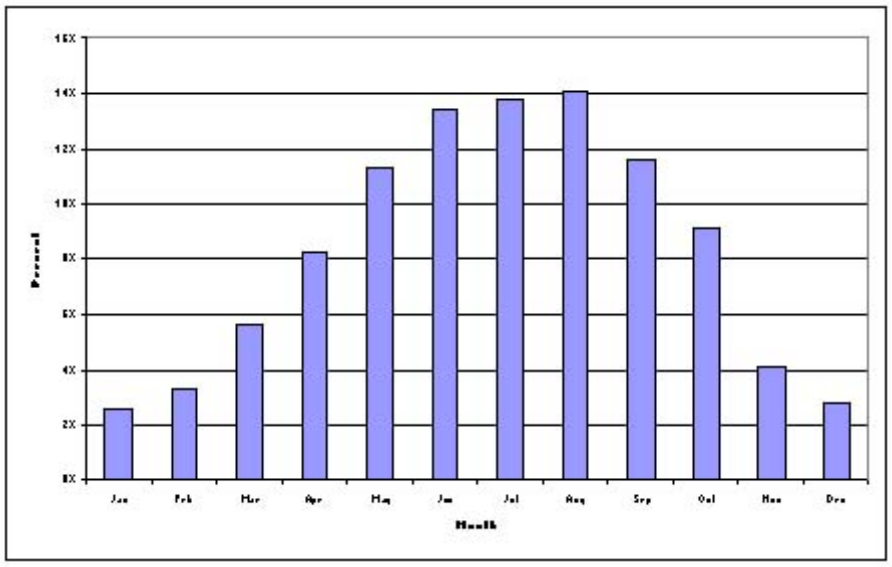
The National Occupant Protection Use Survey (Glassbrenner, 2002) estimates that in 2000, motorcycle helmet use was 81 percent in states with universal helmet laws and 59 percent in states without such laws. The 2002 survey found that helmet use declined considerably in both groups of states. However, this result might have been influenced by the 2002 survey having been taken in the summer whereas earlier surveys were taken in the fall months. That is, helmet use likely is lower in warmer weather.

In 2000, there were 719 more motorcyclists killed nationally than were killed in 1997. All states except Alaska, Delaware, Montana, Nebraska, Nevada, Oklahoma, South Carolina and Vermont recorded increases. The five states that repealed universal helmet laws during this period

experienced 230 of the increased fatalities - Texas (108), Florida (63), Louisiana (38), Kentucky (12), Arkansas (9). Other states with substantial increases were Pennsylvania (59), California (41), Illinois (37), Colorado (35) and Maryland (25). A recent NHTSA examination of trends in motorcycle fatalities (Shankar, 2001) suggests that much of the increase has involved older motorcyclists (age 40 and older), motorcycles with large displacement engines, and more motorcyclist fatalities on rural roadways.

Motorcycling is a highly seasonal activity with most riding taking place in the warmer months. This is illustrated in Figure 10 which shows the percentage of motorcyclist fatalities that took place by month in the five years 1996-2000. Less than 10 percent of fatalities happened in the winter months of December, January and February while over 40 percent of fatalities took place in June, July and August.

Figure 10. Percent of Motorcyclists Killed by Month (Source: FARS)



The riding season is longer in states with more temperate climates. The "southern tier" states CA, AZ, NM, TX, LA, MS, AL, FL and GA recorded about 17 percent of motorcyclist deaths in December, January and February while the "northern tier" states WA, MT, ND, MN, WI, MI OH, PA, NY, VT, NH and ME recorded just over two percent of their fatalities during these months.

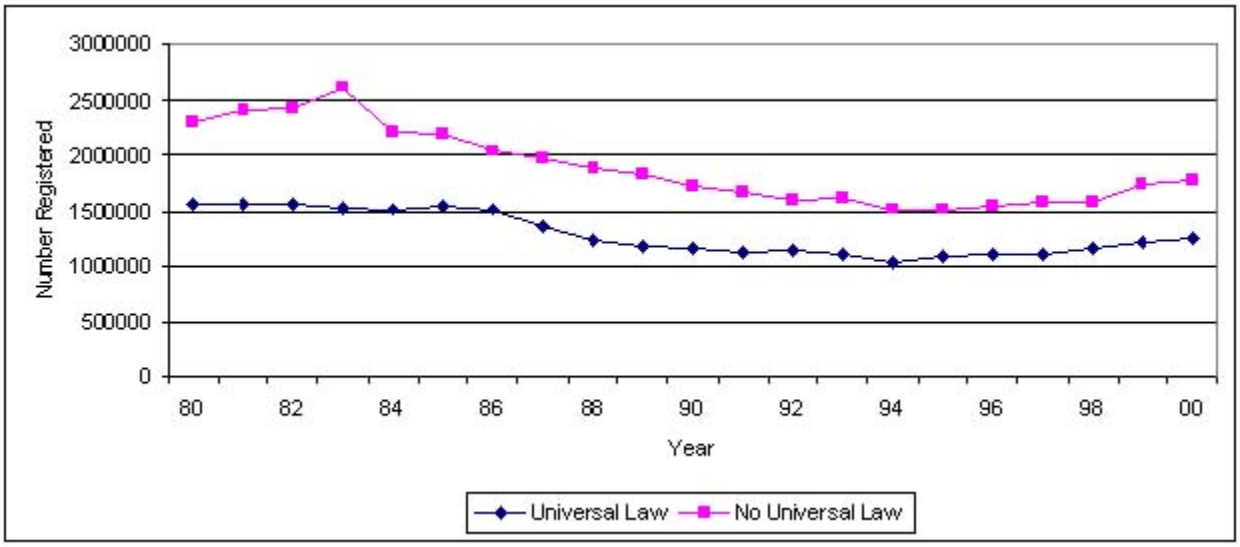
Motorcycle registrations per population follow a different pattern. In the southern tier states in 2000, there were 13.5 registered motorcycles per 1,000 residents while the northern tier states had 18.3 registered motorcycles per 1,000 population. That is, the registration rate tends to be lower where the riding season tends to be longer.

In 2000, there were 979 motorcyclists killed in the southern tier states while 683 were killed in the northern tier. The fatality rate per 10,000 registered motorcycles was 7.7 in the southern tier and 5.1 in the northern states. The southern states, therefore, tend to have longer riding seasons, more fatalities per registered motorcycle but a lower per capita registration rate.

There is considerable state-by-state variation in motorcycle registrations per population. The five states with the highest rates of registrations per 1,000 population in 2000 are Iowa (43.3), New Hampshire (39.4), Wyoming (38.8), South Dakota (38.7), and Vermont (35.7). The five states with the lowest registration rates are New York (5.7), Virginia (8.6), Texas (9.0), Maryland (9.3) and Arkansas (9.4).

Population based motorcycle registration rates also tend to be higher in states without universal helmet laws (18.7 registrations per 1,000 population in 2000) than in states with universal helmet laws (12.8 registrations per 1,000 population). There are 15 states that have had a universal helmet law in place consistently since the late 1970s (AL, GA, MA, MI, MS, MO, NV, NJ, NY, NC, PA, TN, VT, VA and WV) and 16 states that consistently have had a helmet law applicable only to young riders since the 1970s (AK, AZ, DE, HI, ID, KS, MN, MT, NH, NM, ND, OH, OK, SD, UT and WI). Figure 11 shows the trends in numbers of registered motorcycles in these two groups of states. The figure shows that registrations in states with and without universal helmet laws have generally paralleled one another over the past two decades.

Figure 11. Motorcycle Registrations in States With and Without Universal Helmet Laws



Source: FHWA. Wisconsin data for 1983 were extrapolated.