Approved: January 28, 1993
Date

MINUTES OF THE HOUSE COMMITTEE ON TRANSPORTATION.

The meeting was called to order by Chairman Rex Crowell at 1:37 p.m. on January 13, 1993, Room 519-S of the Capitol.

All members were present except: Rep. Dillon, Excused
Rep. Shallenburger, Excused
Rep. King, Excused

Committee staff present: Hank Avila, Legislative Research Department
Tom Severn, Legislative Research Department
Bruce Kinzie, Revisor of Statutes
Donna Luttjohann, Committee Secretary

Conferees appearing before the committee:
Rosalie Thornburgh, Administrator, Office of Traffic Safety
Kenneth "Weasel" McNeill, ABATE
Roger L. McCollister, Attorney
Paula Marmet, Director, Office of Chronic Diseases and Health Promotion
Noel Pat Poull, Kansas Head Injury Association
Andrea M. Ramsay, Attorney
Terry Cheyney, Kansas Head Injury Association
Lynne Dryer, President, Kansas State Council of the Emergency Nurses Association
Rosemary O'Neil, Kansas Head Injury Survivors Council
Terry L. Maple, Kansas Highway Patrol
Chip Wheelan, Kansas Medical Society
Maureen Poull

Chairman Crowell recognized Rosalie Thornburgh, a proponent of a helmet law in Kansas. See Attachment 1 for the testimony she presented to the committee.

Kenneth "Weasel" McNeill testified for ABATE as an opponent of a helmet law. He presented a letter from Norman B. McPherson, Regional Administrator of the U.S. Department of Transportation to Mike Johnston, Secretary of Transportation in Kansas. Questions by the committee were answered. See Attachment 2.

The Chairman recognized Roger McCollister, opponent, to testify. See Attachment 3 for written testimony. Questions from the committee members were answered.

Paula Marmet, Department of Health and Environment, testified as a Proponent for a helmet law. See Attachment 4.

Noel Pat Poull, testified on behalf of the Kansas Head Injury Association as a proponent for a helmet law. See Attachment 5 for his testimony.

Andrea Ramsey, an attorney from Wichita testified as a proponent for a helmet law. Her written testimony is Attachment 6.

Testifying also on behalf of the Kansas Head Injury Association was Terry Cheyney from Kansas City. He spoke in favor of a helmet law and supported Noel Poull in his testimony.

Lynne Dryer, Kansas State Council of the Emergency Nurses Association testified in support of a mandatory helmet law. See Attachment 7 for her written testimony.

The next conferee, Rosemary O'Neil, was a proponent of a mandatory helmet law. See Attachment 8.

Terry Maple of the Kansas Highway Patrol testified in favor of a mandatory helmet law. His written testimony is Attachment 9.

The Kansas Medical Society was represented by Chip Wheelan, a proponent of a helmet law. See Attachment 10.

Maureen Poull requested to testify as a proponent of a helmet law. She is thewife of Noel Poull, and a registered nurse. She explained to the committee the effects of a head injury and the aspects of living on a daily basis with a person who suffered a head injury. She gave examples of some handicaps one suffers with a head injury.

Not appearing before the committee but offering written testimony in support of the helmet legislation was Ed Klumpp of the Kansans for Highway Safety organization. This written testimony appears in Attachment 11.

Chairman Crowell adjourned the meeting at 3:03 p.m. The next meeting is scheduled for January 14, 1993.

STATE OF KANSAS

KANSAS DEPARTMENT OF TRANSPORTATION
Docking State Office Building
Topeka 66612-1568
(913) 296-3566
FAX - (913) 296-1095

Michael L. Johnston
Secretary of Transportation

Joan Finney
Governor of Kansas

HOUSE COMMITTEE ON TRANSPORTATION DISCUSSION OF ISSUES PERTAINING TO THE USE OF MOTORCYCLE HELMETS

January 13, 1993
OFFICE OF TRAFFIC SAFETY

Mr. Chairman and Committee Members:

Mr. Chairman and members of the committee, I am Rosalie Thornburgh, Administrator of the Office of Traffic Safety. On behalf of the Department of Transportation, I am here today to provide information on the issues pertaining to the use of motorcycle helmets.

K.S.A. 8-1598 currently requires that all persons under the age of 18 operating or riding upon a motorcycle or motorized bicycle, must wear an approved helmet.

Section 153 of the Intermodal Surface Transportation Act (ISTEA) of 1991 provides for the application of incentive grant funds to be used toward motorcycle safety and passenger vehicle safety upon passage of appropriate legislation. That legislation includes passage of a full helmet law. In addition, failure to pass the helmet law legislation prior to October 1, 1993, would result in a 1 1/2 percent penalty being assessed against the Department of Transportation federal highway construction funds beginning in federal fiscal year 1995 (October 1, 1994). This penalty would not be a loss of federal funds, but a transfer of funds from highway construction to the section 402 highway safety program. The transfer is to be 1 1/2 percent of certain construction funds in federal fiscal 1995 and 3 percent in federal fiscal year 1996 and thereafter. The transfer would be approximately $2 million in FFY95 and $4 million in FFY96 and thereafter. I have attached a synopsis of the specifications of Section 153 indicating those categories of construction funds to which the penalty is being applied.

HOUSE TRANSPORTATION
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Studies by the National Highway Traffic Safety Administration (NHTSA) indicate that an unhelmeted motorcyclist is 40 percent more likely to incur a head injury and 15 percent more likely to incur a non-fatal head injury than a helmeted motorcyclist when involved in a crash. NHTSA estimates that motorcycle helmets reduce the likelihood of a fatality by 29 percent. I have attached a State Legislative Fact Sheet issued by the National Highway Traffic Safety Administration which includes these key facts and many more pertinent items of information.

I have also attached a Kansas Motorcycle Fact Sheet which describes the motorcycle crash picture in Kansas in 1991. Forty-nine (49) fatalities resulted from over 1100 crashes, of those fatalities 16% were wearing helmets. The fatality rate of drivers killed wearing helmets is 2.84 per 100, non-helmeted fatality rate is 3.47 per 100. The cost of those crashes and injuries are quantified at $30.7 million. The fact sheet analyzes available 1991 statistics in several ways.

In summary, passage of a full helmet law would bring Kansas into compliance with Section 153 of ISTEA and would remove the possibility of KDOT transferring highway construction funds to the highway safety program.

That concludes my presentation. I will be glad to try and respond to any questions you may have.

Kansas Department of Transportation
January 11, 1993

Section 153 of the Intermodal Surface Transportation Efficiency Act of 1991
Use of Safety Belts and Motorcycle Helmets

The Intermodal Surface Transportation Efficiency Act of 1991 created a highway safety incentive grant program providing additional funding to Kansas. The funding is targeted for the use in motorcycle and passenger vehicle safety.

Program eligibility requires the adoption of:

1) a law which makes unlawful throughout the State the operation of a motorcycle if any individual on the motorcycle is not wearing a motorcycle helmet; and

2) a law which makes unlawful throughout the State the operation of a passenger vehicle whenever an individual in a front seat of the vehicle (other than a child who is secured in a child restraint system) does not have a safety belt properly fastened about the individual's body.

Kansas statutes regarding front seat passenger vehicle safety belt use complies with the program requirement. Kansas statute would require modification to bring Kansas into compliance with the helmet program requirement.

Availability of Funds:

Federal Fiscal Year (FFY) 93 and (FFY) 94

Use of Funds:

Education: public information/education about safety and use;
Involve public health agencies and other interested agencies;
Training: to train law enforcement officers in enforcement of relevant laws;
Monitoring: to monitor rate of compliance as described;
Enforcement: to enforce state laws as described.

Maintenance of Effort:

Sustain the aggregate statewide expenditures at the average level in the two years preceding enactment of this section.

Federal Share:

First year: 75% federal, 25% state
Second year: 50/50
Third year: 25/75

Limitation on Grants:

The aggregate amount of grants made to a State under Section 153 shall not exceed 90 percent of the amount apportioned to that State for fiscal year 1990 under Section 402. The amount of grants made to a State in each fiscal year shall be subject to the availability of funding for that fiscal year. Each state qualifying will receive an initial allocation based on all states qualifying. Any funds not apportioned to non-qualifying states will be reapportioned to all qualifying states on August 1 of each federal fiscal year.
Currently 19 states are eligible for funding, excluding Kansas.

Initial allocation estimate for Kansas if qualifying in FFY93: $229,176.

Compliance Criteria/Usage Rates for Subsequent Year Funding:

Second year:
A state must have had its qualifying laws in effect for the entire preceding fiscal year and must have achieved the following usage rates:
Helmet usage rate attained in first year 75%
Belt usage rate attained in first year 50%

Third year:
A state must have had its qualifying laws in effect for the entire preceding fiscal year and have achieved the following usage rates:
Helmet usage rate attained in second year 85%
Belt usage rate attained in second year 70%

Penalty Provisions:

If any state does not have in effect a conforming safety belt or motorcycle law on the first day in federal fiscal year 1994 (October 1, 1993), a penalty will be imposed in FFY 1995. Under this penalty 1 and 1/2 percent of highway construction monies apportioned to the state for fiscal year 1995 shall be transferred to apportionments under section 402. If the conforming laws are not in effect by first day in federal fiscal year 1995 (October 1, 1994) or in any fiscal year thereafter, 3 percent of highway construction funds apportioned for the succeeding fiscal year shall be transferred to the apportionment under section 402.

The programs which would be subject to the transfer are: National Highway System, Congestion Mitigation, and Surface Transportation Program. Note: Hold Harmless funds (in FFY 1994 and 1995) and Reimbursement funds (in FFY 1996 and 1997), which the state is expected to receive, have also been included, as this funding will be transferred to the state's Surface Transportation Program. The estimated amount of apportionment to Kansas and the transfer, if required, are as follows:

	1995 Apportionment	1-1/2% Transfer	1996-7 Apportionment	3 % Transfer
Reim	-0-		$35,000,000	
H.H.	$14,500,000		-0-	
NHS	$48,100,000	.....	$48,200,000	.....
Cong. Mit	$ 4,900,000	.....	$ 5,000,000	.....
STP	$51,500,000	.....	$51,500,000	.....
Total	$119,000,000	$1,785,000	$139,700,000	$4,190,000

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is estimated that approximately 5,623 additional lives could have been saved.

- Numerous studies have proven that helmets do not impair the users' vision or hearing. All helmets provide a field of view greater than 210 degrees and often provide an advantage in hearing warning signals by reducing wind and engine noise.

- All motorcycle helmets sold in the U.S. are required to meet Federal Motor Vehicle Safety Standard 218, the performance standard which establishes the minimum level of protection helmets must afford each user.

- Helmet use laws governing all motorcycle occupants significantly increase helmet use and are easily enforced because of the occupant's high visibility. In NHTSA's latest survey (November 1991), helmet use was reported to be essentially 100 percent at sites with helmet use laws governing all motorcycle riders as compared to 34 to 54 percent at sites with no helmet use laws or laws limited to minors.

- Data on crashes in States where only minors are required to wear helmets show that fewer than 40 percent of the fatally injured minors are wearing helmets even though the law requires them to do so. Helmet laws that govern only minors are extremely difficult to enforce.

- When helmet laws were repealed and helmet use dropped, fatalities increased an estimated 20 percent.

Legislative Status

- Currently 25 States, the District of Columbia, and Puerto Rico require helmet usage by all motorcycle operators and passengers. In another 22 States, only a specific segment of motorcyclists, usually persons under a specific age, are required to wear helmets. Three States have no law requiring helmet use.

- Data from Louisiana, the first State to repeal and then readopt a full helmet law, show that a 30 percent reduction in fatalities (40 fewer deaths) during 1982, the first year after helmet law reenactment. This reduction occurred even though motorcycle registrations increased 6 percent during the year. The helmet use rate increased from roughly 50 percent to 96 percent.

- In the past three years, six States (Oregon, Nebraska, Texas, Washington, California and Maryland) have enacted helmet use laws that govern all motorcycle occupants. In Oregon, there was a 33 percent reduction in motorcycle fatalities the year after its helmet law was reenacted; Nebraska experienced a 32 percent reduction in the first year of its law; Texas experienced a 23 percent reduction; and Washington experienced a 15 percent reduction. It is too early to determine the life saving benefits resulting from California's law which became effective January 1, 1992 and Maryland's law which becomes effective October 1, 1992.

STATE LEGISLATIVE FACT SHEET

U.S. Department of Transportation
National Highway Traffic Safety Administration

October 1992

MOTORCYCLE HELMET USE LAWS

The United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA) strongly believes that effective, comprehensive programs encompassing motorcycle helmet usage, rider education, motorcycle operator licensing, and responsible use of alcohol have a strong positive effect on motorcycle safety. Motorcycle helmets offer motorcyclists involved in traffic crashes the best protection from head injury. The passage of helmet use laws governing all motorcycle riders is the most effective method of getting all motorcyclist to wear helmets. NHTSA encourages States to require all motorcycle riders to wear helmets.

Key Facts

- In 1991, 2,808 motorcyclists died and approximately 100,000 were injured in highway crashes in the U.S.
- Per mile travelled, a motorcyclist is approximately 20 times more likely to die in a crash than is an automobile operator.
- Head injury is the leading cause of death in motorcycle crashes.
- An unhelmeted motorcyclist is 40 percent more likely to incur a fatal head injury and 15 percent more likely to incur a non-fatal head injury than a helmeted motorcyclist when involved in a crash.
- NHTSA estimates that motorcycle helmets reduce the likelihood of a fatality by 29 percent in a crash.
- A study conducted at the University of Southern California, which investigated 900 motorcycle crashes and analyzed 3,600 traffic crash reports covering motorcycle crashes, concluded that **helmet use was the single most important factor governing survival in motorcycle crashes.**
- The same study found that helmeted operators and passengers experienced significantly fewer and less severe head and neck injuries than unhelmeted operators and passengers.
- From 1984 through 1991, it is estimated that helmets saved the lives of more than 5,273 motorcyclists. If all motorcycle operators and passengers had worn helmets during those years, it

If a State does not have both laws by October 1, 1993, 1.5 percent of its principal Federal-aid highway funds for Fiscal year 1995 will be transferred to its Section 402 highway safety program. If a State does not have both laws in effect at any time in Fiscal Year 1995 or thereafter, 3 percent of these funds will be transferred to the Section 402 highway safety program.

Additional Sources of Information

The Effect of Helmet Law Repeal on Motorcycle Fatalities, A Four Year Update. NHTSA Research Notes, Sept. 1989. This report estimates fatalities increased about 20 percent in States that repealed helmet use laws.

The Effectiveness of Motorcycle Helmets in Preventing Fatalities. U.S. Dept. of Transportation, Report No. DOT HS 807 416, March 1989. This publication presents the data and analysis used to estimate that motorcycle helmets are 29 percent effective in preventing fatalities.

Impact of Re-Enactment of the Motorcycle Helmet Law in Louisiana. U.S. Dept. of Transportation, Report No. DOT HS 806 760, December 1984. This report presents the study and comparison of injury severity, fatalities, and financial impact of helmeted versus non-helmeted motorcycle operators and passengers in Louisiana. The repeal and subsequent re-enactment of Louisiana's helmet use law offers unique and valuable data to conduct this systematic study.

Motorcycle Accident Cause Factors and Identification of Countermeasures, Volume 1: Technical Report. University of Southern California, Los Angeles, U.S. Dept. of Transportation, Report No. DOT HS 805 862, January 1981. This report presents the data and findings from the on-scene, in-depth investigations of 900 motorcycle crashes and the analysis of 3600 traffic accident reports of motorcycle crashes in the same study area.

Highway Safety: Motorcycle Helmet Laws Save Lives and Reduce Costs to Society. U.S. General Accounting Office, Report to Congress, July 1991. This report evaluates studies on motorcycle helmet laws. The report summarizes each study's findings on (1) the effectiveness of helmets in preventing deaths and serious injuries, (2) the effect of helmet laws on helmet use and fatality rates, and (3) the cost that society incurs when motorcyclists who do not wear helmets are involved in crashes. All studies comparing helmeted riders to non-helmeted riders found that all helmeted riders had a lower fatality rate.

These reports and additional information are available through your State Office of Highway Safety, the NHTSA Regional Office serving your state, or from NHTSA Headquarters, Traffic Safety Programs, NTS-23, 400 7th Street., S.W., Washington, D.C. 20590, (202) 366-1739.

Cost Savings

- Failure to use motorcycle helmets places a large financial burden on society and individual States. A number of studies have been conducted that compare hospital costs for helmeted and non-helmeted motorcyclists involved in traffic crashes. They have found unhelmeted riders involved in crashes are less likely to have insurance and more likely to have higher hospital costs than helmeted riders involved in similar crashes.

- In Louisiana, the average cost per motorcycle crash decreased by 48 percent from 1981 to 1982, the first year of its helmet use law. Dramatic differences were found in hospital stay lengths between helmeted and non-helmeted riders.

- Studies show that the cost of helmeted vs. non-helmeted motorcyclists who were treated at various hospitals across the country range from $2,438 to $13,368 for helmeted motorcyclists and $3,368 to $30,365 for unhelmeted riders.

- NHTSA estimates that $2.3 billion was saved between 1984 through 1990 because of the use of helmets. An additional $2.54 billion would have been saved if all motorcyclists had worn helmets.

Who Supports Motorcycle Helmet Use Laws?

The following organizations have publicly supported motorcycle helmet use laws:

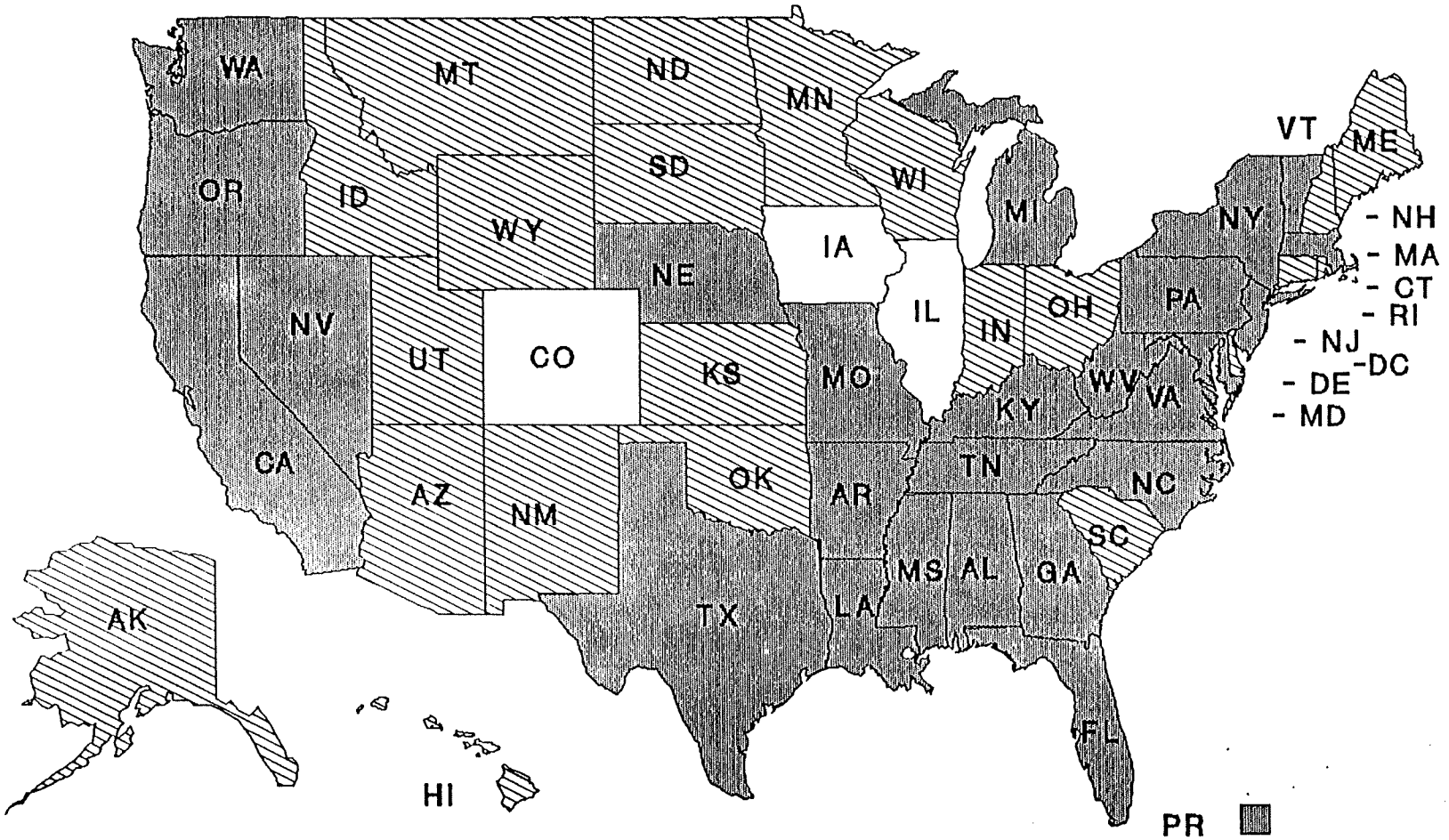
- Advocates for Highway and Auto Safety
- American Academy of Family Physicians
- American Academy of Orthopedic Surgeons
- American Academy of Pediatrics
- American Association of Critical-Care Nurses
- American Associations of Neurological Surgeons
- American Association of Occupational Health Nurses
- American Coalition for Traffic Safety, Inc.
- American College of Emergency Physicians
- American College of Preventive Medicine
- American College of Surgeons
- American Hospital Association
- American Insurance Association
- American Medical Association
- American Nurses Association
- American Public Health Association
- American Trauma Society
- Association for the Advancement of Automotive Medicine
- Child Welfare League
- Congress of Neurological Surgeons
- Consumer Federation of America
- Emergency Nurses Association
- Epilepsy Foundation of America
- GEICO
- General Federation of Women's Clubs
- Motorcycle Industry Council
- Motor Vehicle Manufacturers Association
- National Association of Public Hospitals
- National Association of Emergency Medical Technicians
- National Association of State EMS Directors
- National Council on the Handicapped
- National Head Injury Foundation
- National Safety Council
- National Safe Kids Campaign, Inc.
- Snell Memorial Foundation
- Students Against Driving Drunk
- Traffic Safety Now, Inc.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991

ISTEA provides incentive grants in Fiscal Years 1992-94 for those States that have in effect a motorcycle helmet law applicable to all riders and a safety belt use law applicable to front-seat occupants in passenger vehicles. In the first year a State must have both laws to qualify. In the two subsequent years, it must also achieve certain compliance levels.

MOTORCYCLE HELMET USE LAWS

As of October 1992



KANSAS
MOTORCYCLE FACT SHEET
FOR THE YEAR 1991

There were 1,195 motorcycle crashes

* 3.7% were fatal crashes
  - forty-nine motorcyclists died

* 83% were injury crashes
  - 1,132 cyclists were injured
  - * 29% of the injury crashes were serious or incapacitating injuries to 322 cyclists

* 13.3% were Property Damage Only (PDO) crashes
  - 276 cyclists were involved

These crashes amount to 3.3 crashes per day - resulting in -
3.1 injuries per day,
and
one fatality every 7.5 days

The cost of all crashes, including wages lost, medical expenses, insurance administration costs and property damage is $30.7 million

Eight (16%) of the 49 fatalities were wearing helmets

237 (21%) of the 1,132 injured motorcyclists were wearing helmets

Motorcycle registration is approximately 2.2% of all registered motor vehicles in Kansas, but -

Motorcycle fatalities represent twelve percent (a disproportionate amount) of the 409 motor vehicle fatalities in Kansas 1991

The fatality rate of drivers killed wearing helmets is 2.84 per 100, non-helmeted fatality rate is 3.47 per 100

****
** Based on incomplete preliminary 1992 data, it appears **
** a lesser number of motorcyclists died, but on **
** January 6th, we cannot make any other inferences. **
** **
** **
** **
****

KDOT - OTS 1-06-93

HOUSE TRANSPORTATION
Attachment 1-11
1-13-93

U.S. Department of Transportation
National Highway Traffic Safety Administration

Region VII
Iowa, Kansas, Missouri, Nebraska

P.O. Box 412515
Kansas City, Missouri 64141

September 9, 1992

Mr. Mike Johnston
Secretary
Kansas Department of Transportation
Docking State Office Building (7th Floor)
Topeka, Kansas 66612-1568

Dear Secretary Johnson:

My recent letter to you on secondary helmet laws contains an error in the statement of our policy.

The National Highway Traffic Safety Administration's (NHTSA) determination that a motorcycle helmet law containing a secondary enforcement provision will not meet the requirements of Section 153 applies only to the three-year incentive grant program.

NHTSA has not yet published the regulation to implement the transfer provisions of Section 153. A notice of proposed rulemaking will be published in the near future in which we will request comments on qualifying motorcycle and safety belt use laws. During the rulemaking process, it may be determined that certain legal provisions allowed or disallowed in the grant qualifying phase may be treated differently in the penalty phase. However, NHTSA is already on record as opposing secondary enforcement of helmet laws because the effect of such enforcement undercuts the safety consideration intended by the statute.

When the notice of proposed rulemaking is published, I will make sure that you get a copy for your information and comment. If I can be of further assistance, please contact me at 816-926-7888.

Sincerely,

Norman B. McPherson
Regional Administrator

HOUSE TRANSPORTATION
Attachment 2
1-13-93

TESTIMONY BEFORE THE HOUSE COMMITTEE ON TRANSPORTATION

Roger L. McCollister
712 S. Kansas Ave
Suite 200
Topeka, Kansas 66603
(913) 233-2068

January 13, 1993

RE: Testimony in opposition to RE-enactment of a Kansas Motorcycle Helmet Law.

I am a 48 year old motorcyclist, having begun riding at age 14. I am currently riding my fifth Harley Davidson, a 1991 FXSTC (Softail). I am an attorney in Topeka.

I have had two accidents, one with a helmet, and one without. I was not seriously injured either time.

As a long time motorcycle rider, I am opposed to helmet laws for adult riders and passengers.

The following are my reasons:

1. MOTORCYCLE RIDERS, AS CONCERNED AND RESPONSIBLE CITIZENS, SIMPLY DO NOT WANT OR SUPPORT A HELMET LAW FOR ADULTS.

2. HELMET LAWS ARE INEFFECTIVE IN PREVENTING ACCIDENTS WHICH CAUSE INJURY.

Helmets may reduce injury once an accident occurs. However, an injury to the head is only one risk of a cycle accident.

Helmets do not prevent accidents. Cycle accidents are the cause of injury. If all cycle accidents were eliminated, only 4.6% of all head injuries would be prevented. 42.2% of all head injuries occur in other motor vehicle accidents (cars and trucks). See U.S. Department of Transportation, National Highway Safety Administration Report to Congress, 1980.

If preventing head injuries was the goal, we would make car drivers and passengers wear helmets. Car drivers would strongly oppose helmet laws for the same reasons cyclists oppose them: **Helmet Laws infringe on our right to make our own decisions for personal safety!**

The most effective way to reduce injury is to reduce accidents. That can be done by better highway safety and education programs.

HOUSE TRANSPORTATION
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3. KANSAS, WITH FEDERAL FUNDS, SHOULD EXPLORE BETTER HIGHWAY SAFETY AND DRIVER EDUCATION PROGRAMS AS A MEANS TO PREVENT ACCIDENTS AND THEREBY, INJURY.

Kansas will receive $100 million per year for six years pursuant to PL 102-240 for special road projects, not as part of a highway program (Congressional Quarterly, December 21, 1991; page 3739). Kansas will receive up to $275,000 per year for three years Federal Matching money for highway safety education if they pass a helmet law by October 1, 1993.

If Kansas fails to pass a helmet law by October 1, 1993, they will be required to spend $1.5 million of the $100 million the first year on highway safety and education programs. If no helmet law is passed by October 1, 1994, Kansas must spend $3 million of the $100 million on such programs. Also, Kansas would be ineligible for the $275,000, three year incentive grants.

Kansas currently spends $200,000 per year for safety belt education and $320,000 for education relating to alcohol safety counter-measures. No funds are identifiable as to helmet use education. This is inadequate if preventing accidents and thereby, injury, is important.

An adequate highway safety program may cost $1.5 - 3 million per year. We should commit that amount, especially since the $1.5 - 3 million "penalty" does not require State Matching Funds and is a free gift from the Federal Government if we don't pass a helmet law.

An adequate program may save the State five times the cost, as follows:

1. Lost wages and State tax receipts;

2. State's expenses for medical bills of all drivers and passengers - including cyclists;

3. Lower cost of traffic law enforcement due to better driver awareness; and

4. Long term public cost of the disabled.

RECOMMENDATIONS:

1. Reject a helmet law for three years.

2. Create a Public Citizen Advisory Group for Highway Safety - uniting the groups testifying today behind a common goal of accident prevention.

3. Develop meaningful highway safety programs for the Public.

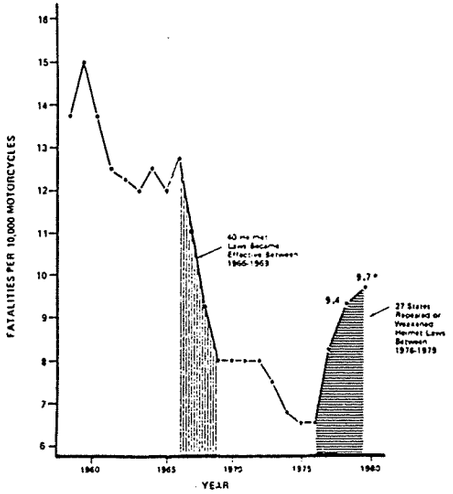
4. Study the results as to accident and injury prevention.

5. If injury prevention as a result of safety programs is not satisfactory, reconsider a helmet law in three years.

HOUSE TRANSPORTATION
Attachment 3-2
1-13-93

A REPORT TO THE CONGRESS
ON

THE EFFECT OF MOTORCYCLE HELMET USE LAW REPEAL -- A CASE FOR HELMET USE



APRIL 1980

U.S. Department of Transportation
National Highway Traffic Safety Administration

FIGURE 1

NHTSA has widely publicized — including on its Helmet Law Report cover — a graph apparently linking declines and increases in motorcycle fatalities with presence and absence of mandatory helmet laws, shown above in Figure 1.

However, while NHTSA's graph reveals alarming changes in fatality rates, it fails to distinguish between states which have or don't have mandatory helmet laws.

When the states repealing or weakening helmet laws between 1976 and 1979 are broken out from states retaining their laws, as shown in Figure 2 above, there is no appreciable difference. The law states (solid line) show fatality rates rising as rapidly as the repeal states (broken line).

This comparison is more clearly seen in Figure 3, where the graphs focus on only the four years in question. Also, Figures 2 and 3, using accurate 1979 data, reveal that NHTSA's projection of even higher fatalities in 1979 was wrong. Both in repeal and law states, fatalities per 10,000 registrations declined, further calling into question NHTSA's contention that more repeals would bring more deaths.

NHTSA has focused on head and spinal injuries among motorcyclists in an attempt to argue that mandatory protection of head and neck may be justified. However, data available from the Rocky Mountain Regional Spinal Injury Center, displayed in Figure Four, show that two-wheeled vehicles, including bicycles and motorcycles rank well below other causes of head and neck injury. While other forms of transportation are the cause of nearly half the head and neck disabilities, two-wheeled vehicles account for less than five percent.

FIGURE 2

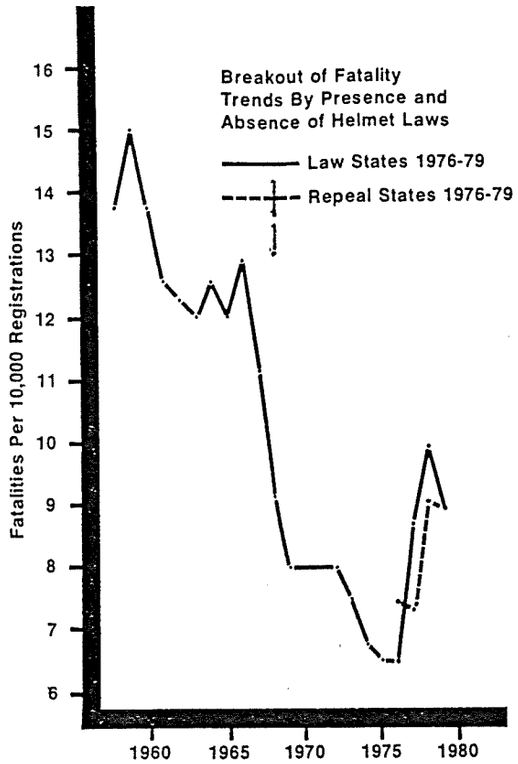


FIGURE 3

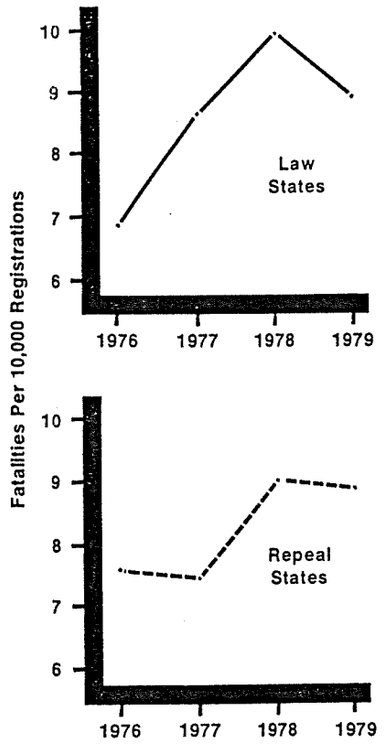
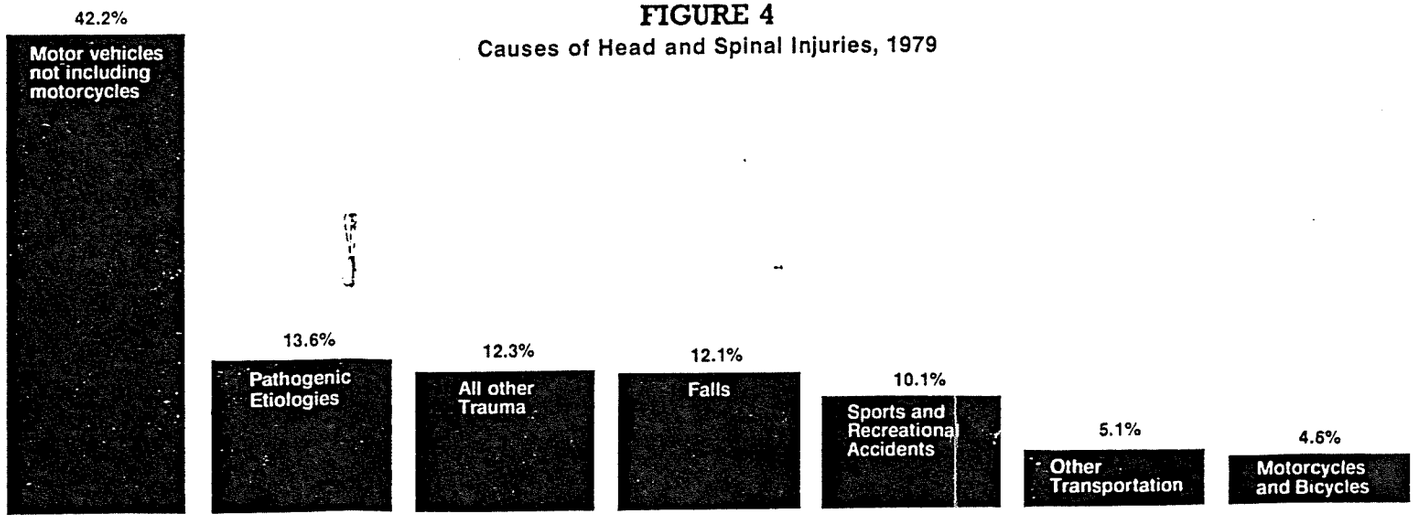


FIGURE 4

Causes of Head and Spinal Injuries, 1979



State of Kansas
Joan Finney, *Governor*

Department of Health and Environment
Robert C. Harder, Secretary

Reply to:

Informational Testimony presented to

House Transportation and Utilities Committee

by

The Kansas Department of Health and Environment

Hearing on Mandated Use of Motor Cycle Helmets

In 1966, the Highway Safety Act was passed requiring all states to pass a helmet use law in order to qualify for safety and highway funds. By 1975, the District of Columbia and 47 states required all motorcyclists to use helmets and there was evidence that there was compliance. In 1976, Congressional financial pressure was lifted and within 2 years, 26 states had rescinded or weakened their laws. Kansas was among those states who repealed their helmet use law. The result was predictable and overwhelming. The repeal or weakening of motorcyclist helmet laws was followed by an almost 40% increase nationally in the numbers of fatally injured motorcyclists. In Kansas, the fatality rate increased with repeal from 15 deaths per 1,000 motorcycle crashes to 25 deaths per 1,000 motorcycle crashes. A study conducted at the University of Southern California concluded that helmet use was the single most important factor governing survival in motorcycle crashes.

Extent of the Problem

The overall number of motorcycle accidents is low, but almost all of these collisions result in injury. Motorcycle crashes accounted for 2% of statewide vehicle crashes in Kansas, but those crashes accounted for more than 12% of the statewide fatalities, a disproportionate amount. The majority of injured bikers and motorcycle crashes have occurred to riders over the age of 19 years. According to data from the Kansas Department of Transportation, of the 409 reported motor vehicle fatalities in Kansas in 1991, there were 49 rider fatalities. Forty-five fatalities (92%) occurred in the over age 19 age group. Of those killed in 1991, 14.2% were known to be wearing helmets; 65% were not.

HOUSE TRANSPORTATION
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Head injury is the leading cause of death in motorcycle crashes. An unhelmeted motorcyclist is 40% more likely to incur a fatal head injury than a helmeted motorcyclist.

Effect of Helmet Laws

Helmet use laws governing all motorcycle occupants significantly increase helmet use and are easily enforced because of the occupant's high visibility. The National Highway Traffic Safety Administration (NHTSA) conducted a helmet survey in 1986 that compared helmet usage in seven cities with mandatory helmet laws to helmet usage in 12 cities with no or limited helmet use laws. Surveyors observed a helmet usage rate of essentially 100% in cities with helmet use laws governing all motorcycle occupants as compared to the range of 34 to 54% at cities with no helmet use laws or laws governing only minors. Data on crashes in states where only minors are required to wear helmets show that fewer than 40% of the fatally injured minors are wearing helmets even though the law requires them to do so. This is attributed to the fact that helmet laws governing only minors are extremely difficult to enforce.

Motorcycle helmet laws are an intervention that have been proven effective in preventing unnecessary injuries and fatalities. In Oregon, there was a 33% reduction in motorcycle fatalities the year after its helmet law was reenacted; Nebraska experienced a 32% reduction in the first year of its law; and Texas experienced a 23% reduction. In Louisiana, the collision rate for motorcycles significantly decreased by 48% from 1981 when no mandatory helmet law was required until 1987 when mandatory helmet legislation was enacted.

Cost to Kansans

If motorcyclists who choose not to wear helmets were only hurting themselves, the question of mandatory helmet laws might not be such an issue for public concern. However, helmet use is an economic issue as well as a personal safety issue. The experience of the State of Louisiana is an example of the benefits to be gained by enacting a universal helmet law. This state enacted a mandatory helmet use law in 1981. An analysis revealed that following enactment, fatalities fell from 3.63 per 100 collisions to 1.07 per 100 collisions. Crashes resulting in reportable serious injuries fell from 84% to 74%. They also benefited by a substantial reduction in the average medical cost per injury: $2,071 before enactment, $835.00 after enactment.

A study reported in the October 1990 issue of The Journal of Trauma reported that the repeal in Kansas cost almost $600,000 per year. Kansas is still losing $744,000 per year in hospital costs (1989 dollars) without a motorcycle helmet law or a total of $9.7 million since 1976. An increase in medical costs was noted in a recent

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study as a result of the greater number of head injuries that increased hospital days, Intensive Care Unit (ICU) days and days of disability. In Kansas, the medical cost for non-helmeted riders was 189.3% higher than for helmeted riders. More recently, two hospitals in Wichita compiled data from their trauma registry that indicated that 112 motorcycle crash injury victims were treated for major trauma in 1991. The cost for acute care hospital care for these victims was over $1.2 million; 78% of them were not wearing a helmet. Clearly, the public has an interest in minimizing the resources directly involved in motorcycle crashes.

Ineffectiveness of Rider Education

Despite the strong advocacy by the various motorcycle organizations for educational efforts and against legislation, this approach has proved to be a dismal failure. A course developed in cooperation with the American Motorcyclists' Association, called the Motorcycle Operator Skill Test II was used in California. This program was designed to increase the awareness of helmet use and improve the individual's ability to ride the motorcycle beyond any standard education a rider might have. In other words, it was developed as the ultimate education course. The participants in this course had 18% more crashes in the first year than did the non-participants. This group also received 9% more traffic convictions according to a 1988 status report. A similar training program developed in New York had a similar outcome.

Rider Impairment

Helmets do not cause collisions. According to the October 1990 Journal of Trauma, even full facial helmet coverage allows almost complete peripheral vision of 180 degrees. This is slightly reduced from the normal 200 degrees, but is not a functionally significant impairment. The question about hearing is a bit different. The sound of an automobile approaching from the side or rear must compete with the sound of the motorcycle engine. Both the wind and motorcycle engine, however are louder than that of the approaching car. The sound of the approaching car is obscured by this additional sound. Helmet use reduces all sound levels equally. It does not differentially reduce the sound of approaching cars. Therefore, the ability to detect approaching vehicles is not impaired by helmet use.

The question of injuries induced by the extra weight of the helmet on the head to the cervical spine is answered by four studies that demonstrate decreased cervical spine injury when helmets are worn.

Summary

Effective comprehensive programs encompassing motorcycle helmet usage, rider education, motorcycle operator licensing, and the responsible use of alcohol will have the greatest positive effect

on motorcycle safety. Motorcycle helmets offer motorcyclists involved in traffic crashes the best protection from head injury. The passage of helmet use laws governing all motorcycle occupants is the most effective method of ensuring that all motorcyclists wear helmets.

Informational Testimony presented by: Paula Marmet
Director
Office of Chronic Disease
and Health Promotion
January 13, 1993

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Kansas Head Injury Association

9401 Nall Suite 100 Shawnee Mission, Kansas 66207 913.648.4772

MISSION: TO IMPROVE THE QUALITY OF LIFE FOR PERSONS WITH HEAD INJURY; TO PROVIDE SUPPORT TO THEIR FAMILIES; AND, TO DEVELOP PROGRAMS TO PREVENT HEAD INJURY.

BACKGROUND: The Association is a 501(c)(3) not-for-profit organization incorporated in the State of Kansas in June 1982. In the late 1970's and early 80's we saw a dramatic rise in the number of survivors of head injury who were hospitalized. Expansion of emergency medical systems and improvement in trauma care led to an increase in the number of survivors of traumatic head injury. Community and social service agencies were ill equipped and unprepared to provide adequate services. The unique needs of head injury survivors and their families were not being addressed by any state or private agency. Currently, the Kansas Head Injury Association is the only provider of programs and services that concentrates on the unique educational and emotional needs of head injury survivors and their families, and that emphasizes prevention as the only cure for head injury.

THE HEAD INJURY EXPERIENCE:

This year nearly 15,000 Kansans and Missourians will sustain a head injury. 1,500 will sustain severe, lifelong disabling injuries. In February 1989, the Department of Health & Human Services of the United States Government published the Interagency Head Injury Task Force Report. In that report, it was noted that "a head injury occurs every fifteen seconds in the United States; seventy-five to one hundred thousand individuals die each year from head injuries; traumatic head injury results in 5,000 new cases of epilepsy each year; the annual economic cost of head injury will approach twenty-five billion dollars; and, in the past twelve years, more people have died of head injuries than in all of American fought wars since the founding of the United States." Head Injury will cause more loss of working years of life than heart disease and cancer combined. Most of the head injured survivors will be between the ages of fifteen and twenty-four. Eighty percent of severe head injuries will be caused by motor vehicle crashes. Falls, industrial accidents, assaults, weapons and recreational accidents are other common causes.

National Head Injury Foundation

1140 Connecticut Avenue N.W., Suite 812
Washington, D.C. 20036 • (202) 296-NHIF

FACTS

• A conservative estimate puts the total number of traumatic brain injuries at over 2 million per year, with 500,000 severe enough to require hospital admission.

• Every 15 seconds someone receives a head injury in the United States; every five minutes, one of these people will die and another will become permanently disabled.

• Traumatic brain injury (TBI) is the leading killer and cause of disability in children and young adults.

• Each year 75,000 to 100,000 Americans will die as a result of a TBI. Most deaths occur at the time of injury or within the first two hours of hospitalization.

• Of those who survive, each year approximately 70,000 to 90,000 will endure life-long debilitating loss of function... An additional 2,000 will exist in a persistent vegetative state.

• Young men between the ages of 15 and 24 have the highest rate of injury. Males are more likely to suffer serious head injuries than females.

CAUSES

• Motor vehicle crashes cause one-half of all traumatic brain injuries with falls accounting for 21%, assaults and violence 12%, and sports and recreation 10%.

• Child abuse accounts for 64 percent of infant head injuries.

• Each year in the U.S. 50,000 children sustain bicycle-related head injuries, and of these over 400 die.

COSTS

• The economic costs alone approach $25 billion per year.

• A survivor of a severe brain injury typically faces 5 to 10 years of intensive services; estimated lifetime costs can exceed $4 million.

Statistics from the Interagency Head-Injury Task Force Report, February, 1989, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD.

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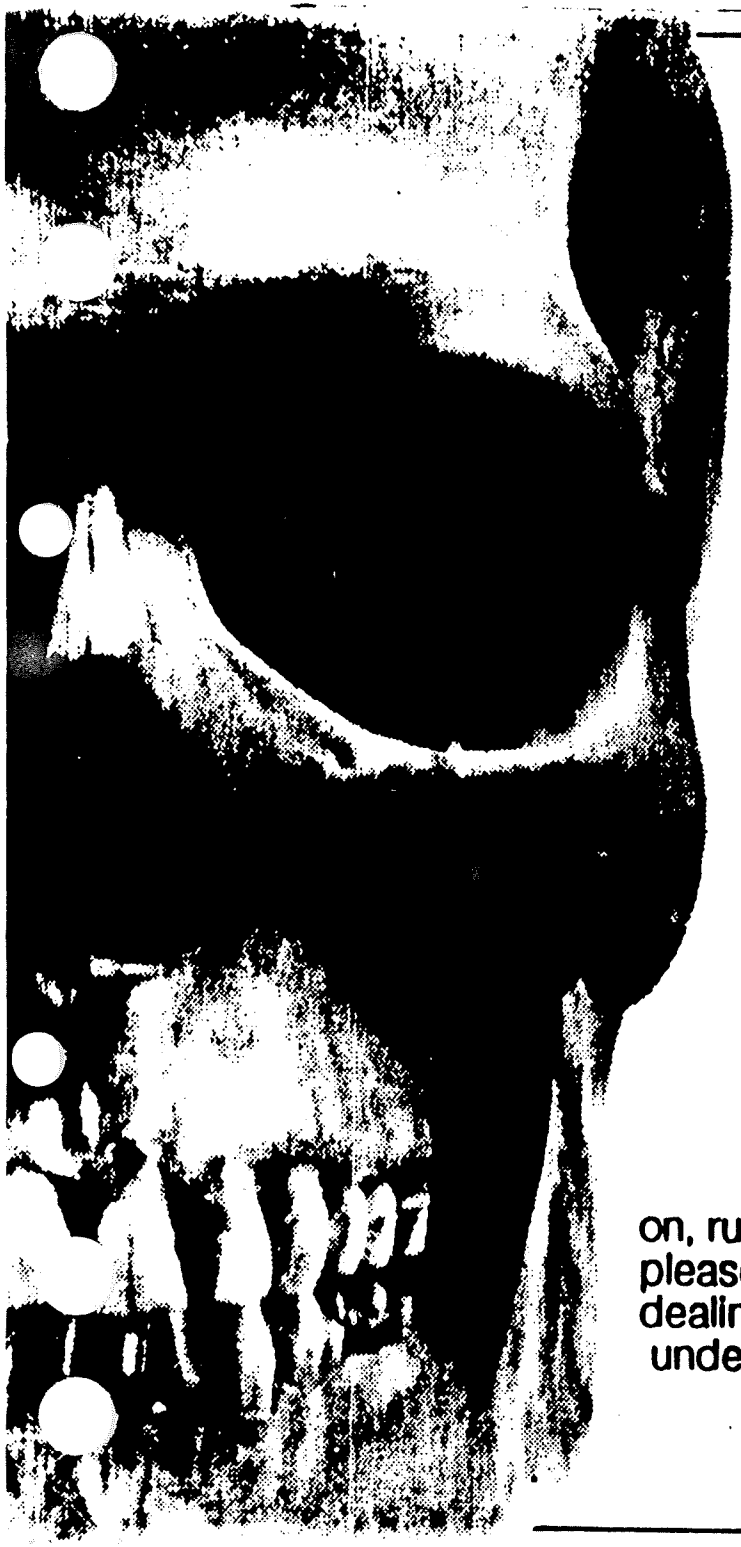

YOUR BRAIN COMES WITH ITS OWN HELMET. UNFORTUNATELY, IT DOESN'T MEET ANY OF THE MANUFACTURER'S SAFETY REQUIREMENTS.

If, in your daily existance, your head has the potential to be stomped-on, run-over, impacted at high speeds or otherwise squashed like a melon, please consider protecting it. Because as practical as the human skull is for dealing with simple bumps and bruises, it has this annoying habit of cracking under pressure. 1-800-263-5404

ONTARIO HEAD INJURY ASSOCIATION

ANDREA M. RAMSAY

Attorney at Law
301 West Central
Wichita, Kansas 67202-1077
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Licensed in Kansas, S.Ct. #11284
and Missouri, S.Ct. #42518

January 14, 1993

The Honorable
Representative Rex Crowell
House Transportation Committee
State Capitol Bldg.
Topeka KS 66612

Dear Representative Crowell and members of the Committee:

Thank you for inviting me to attend your hearings and speak to you on the proposed amendment to the helmet statute. I did not have prepared remarks to hand you, and the acting chair graciously invited me to submit remarks afterward.

The chairperson asked me and others whether, under the constitution, "the federal government should be telling the state" how it can use highway grant funds. A question as to whether the a thing "should" be done or not calls for a personal, not a legal, opinion. I misunderstood the question as one having to do with whether state action would be a violation of the individual's constitutional rights, I really did not answer the question asked, but I will do that now.

SHOULD THE FEDERAL GOVERNMENT BE TELLING THE STATE HOW IT CAN USE HIGHWAY GRANT OR INCENTIVE FUNDS.

In my personal opinion, yes.

I am an American and a Kansan. I consider my interests as a United States citizen to be the same as my interests as a citizen of Kansas. Neither is greater than the other in my mind. I believe we are all aware that the infrastructure of the interstate highway system and of the state highway system have deteriorated in recent years. The United States, the federal government, has a legitimate interest. a right and an obligation to see that the interstate highway system is improved and maintained. I believe that Kansas and Kansans who use that system have the same interest, right and obligation.

Kansas also has the obligation to act in the collective best interest of its citizens to have a good highway system at the least cost, which can mean accepting federal funds.

Clearly, to the extent that Kansas accepts and uses federal highway funds, I think the federal government has a right to have a say in how those funds will be used. Whether it chooses to use a carrot or a stick (incentives or penalties) is not important in my mind when the job needs to be done and it will benefit Kansans to get it done. Just as clearly, Kansas can choose not to accept those funds, but the legislature must first ask whether such a decision is in the collective best interest of its citizens.

EVEN IF THE FEDERAL GOVERNMENT CAN EXACT A PENALTY, IS THE MANDATORY HELMET LAW A REASONABLE REQUIREMENT AND SHOULD THE STATE COMPLY.

Just as it has an interest in the construction and maintenance of federal highways, the federal government has a legitimate interest in safety on the interstate highway system. Kansas also has a legitimate interest in safety on the state system. In my opinion, the interests are the same, not in conflict. Nor do I consider tying federal highway funds to safety legislation an unreasonable incursion upon state sovereignty. I believe a universal helmet law is a reasonable safety requirement. The costs of not having it are extreme. The state has a legitimate interest in the safety of motorcycle riders which permit it to enact such safety legislation. The benefit of such legislation, to the rider and to society, outweighs any limitation on individual rights.

Our current helmet law, which requires only minors to wear helmets, is a failure because it does not reach the population at risk. Only 8 to 9% of all persons involved in motorcycle accidents in the state of Kansas are minors.

I will not directly address the statistics of motorcycle accidents in Kansas because you have been provided excellent information from KDOT, NHTSA, and KDHE. In addition, the Kansas Head Injury Association and others have supplied reams of statistics to both the Senate Transporation Committee and the House Transportation Committees in the past when this matter was considered.

There has been repeated testimony about the incalculable suffering of victims and families. There has been testimony concerning the financial losses to private citizens and to the state welfare system. The federal Department of Transportation did an exhaustive four-state study motorcycle accidents, the effect of repeal of helmet laws, helmet safety, and costs, and the information on those publications has been made available in the past. Kansas was one of the four states studied. Studies in Kansas found that in the years following repeal in 1976, fatalities and incapacitating injuries increased 333%.

Since we are talking about protective headgear what we are really talking about is preventing traumatic brain injuries, not road

rash or broken limbs. The latter can heal. An injured brain is not mendable.

On the financial costs, I can speak personally. My son was the classic statistic. He suffered a severe head injury in a motorcycle accident (no helmet) at age 19. He was never able to walk, talk, sit up, feed or bathe himself again. He required total, 24 hour a day care until he died eleven and a half years later. We exhausted a $500,000 coverage medical policy in a few years. The intensive care cost alone was in excess of $100,000 for thirty days. The state spent many thousands of dollars on him after our insurance was exhausted. I could also speak to the devastation to the human spirit of victim and family alike, but I have said it before.

Most motorcycle accidents do involve persons ages 16 to 24, and the second largest group at risk are ages 25 to 35. If they survive an accident but are disabled, these persons can live for many years. For those who are cared for by the state, the cost can be expected to run to hundreds of thousands of dollars. The State Insurance Commissioner indicates that many cyclists have uninsured periods and the majority of those who do carry coverage carry the minimum requirements.

PIP coverage will cover only the most minor of injuries and is not a drop in the bucket when it comes to a treating a head injury. The average $25,000 to $50,000 in liability coverage also will not cover the cost.

As you know from the current national debates on health costs and health insurance, 25 to 35% of our citizens currently have no medical coverage. Many others are underinsured. Long-term rehabiliation is extremely expensive--in the millions of dollars. Consequently, most companies, including Blue Cross-Blue Shield, in recent years have taken steps to exclude such care from their coverage. Those who wind up in the welfare system simply do not get that kind of rehabilition. The majority of them wind up in nursing homes for life and are never productive citizens again.

IS THERE ANOTHER SOLUTION TO PREVENTING OR LESSENING HEAD INJURIES?

The only way to prevent all head injuries is to prevent accidents. Helmets will not prevent accidents, but they can prevent or greatly reduce the severity of traumatic brain injury suffered when an accident does occur. Nor, despite the hype you may hear to the contrary, are there statistics to prove that helmets themselves represent any great danger.

There is no single solution to preventing or reducing the cost of traumatic brain injuries from motorcycle accidents. Statistics indicate that older, more experienced riders have fewer such

accidents. Rider and safety education is part of the answer. Helmets are part of the answer.

Increasing liability insurance requirements for a population at greater risk may be part of the answer. The greater problem of health insurance is part of the answer. The whole is made all its parts. To ignore a partial solution is never to advance.

In my opinion, the question is not "should we" have a universal helmet law. The answer to that is yes. The harder question is "why have we done nothing for so long, when we could and should have done something?"

Sincerely,

Andrea M. Ramsay

Andrea M. Ramsay

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EMERGENCY
EMERGENCY
EMERGENCY
EMERGENCY
EMERGENCY
EMERGENCY
NURSES ASSOCIATION

ENA
Kansas State Council

Good afternoon; Representative Rex Crowell and members of the House Transportation Committee.

My name is Lynne Dryer. I am a Registered Nurse and a Certified Emergency Nurse. I am currently the President of the Kansas State Council of the Emergency Nurses Association.

I am here today to support Senate Bill 1 which requires helmets for all motorcyclists.

My present employment is as a flight nurse for Life Star (a helicopter ambulance) for the past four years and a emergency nurse at Stormont Vail Regional Medical Center's Emergency Department in Topeka since 1986. As a prehospital and emergency nurse, I have seen many injuries and deaths related to motorcycle accidents. I believe along with my colleagues that there are worse outcomes related to not wearing a helmet than from wearing one.

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EMERGENCY
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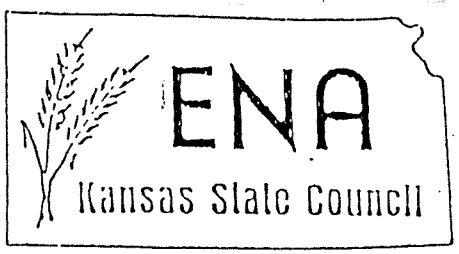
NURSESASSOCIATION



This past year I picked up a teenager who lost control of his motorcycle at a high rate of speed. Because he was wearing a helmet, he suffered only minor injuries and will finish his senior year of high school. On the other hand, I have seen an abundance of tragedy and death related to my patients not wearing a helmet and it is horrifying!

Attached is a copy of the our national organization, the Emergency Nurses Association, position statement on injury prevention and helmets for motorcyclist

Thank you for your time and consideration.

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EMERGENCY NURSES ASSOCIATION

POSITION STATEMENT

INJURY PREVENTION

STATEMENT OF THE PROBLEM

Injuries are the leading cause of death for those persons between the ages of 1 and 44. Injuries constitute 25% of emergency department visits and are one of our most expensive health problems with an estimated $180 billion in total economic cost of injury sustained in 1985. The morbidity loss for persons disabled as a result of injury amount to 5.1 million years of productive output lost, valued at $65 billion, two-fifths of the total economic cost.

Injury prevention and control require a systems approach with collaboration between federal, state and local agencies and individuals to identify specific problems and to develop and implement control strategies targeted to reduce incidence.

ASSOCIATION POSITION

The ENA believes that injury prevention can be most effectively implemented when valid information from data sources such as statewide trauma registries are used to identify the factors associated with the mortality and morbidity of specific injury problems.

The ENA believes that a strategic plan aimed at controlling and preventing injuries should utilize methods designed to reduce the incidence and severity of injuries.

The ENA supports the three strategies for injury control:

1. **Automatic protecting/emergency technology** to alter the product or environment to protect individuals at risk with safety features including factory-installed air bags, roll bars on trucks, restrictive devices for children, etc;

2. **Legislation/enforcement** interventions requiring certain behavior, e.g. motor cycle helmet laws, inclusion of regulated warnings in manufacturer's literature specific to both dangers and inherent liabilities, or the use of administrative rules or laws to protect persons, e.g. building codes requiring smoke detector installation;

3. **Education/persuasion** programs designed to change human behavior, e.g. educational programs for preventing driving while intoxicated.

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The ENA believes injury prevention programs and research, targeting specific injuries in defined populations, should be formulated with measurable goals and objectives. The ENA believes that the evaluation of injury programs be based on process and outcome evaluations utilizing both baseline and outcome data.

RATIONALE

Data supports the reduction not only in the incidence of injuries but also in the severity and cost of injuries when prevention/control strategies are implemented in a system-wide plan.

References

The National Committee for Injury Prevention and Control (1989). Injury prevention: Meeting the challenge. American Journal of Preventative Medicine Supplement. 5:3.

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Rice DP, MacKenzie and Associates. (1989). Cost of injury in the united states: A report to congress, 1989 San Francisco, Institute for Aging, University of California and Injury Prevention Center, The John Hopkins University.

Addendums

ENA Resolution 89:04, Restriction of Passengers in Back of Pickups

ENA Position Statement, Helmets for Motorcyclists

ENA Position Statement, Mandatory Use of Seatbelts

Approved by ENA Board of Directors, June 8, 1990

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EMERGENCY NURSES ASSOCIATION
POSITION STATEMENT

HELMETS FOR MOTORCYCLISTS

The Emergency Nurses Association (ENA) recommends the use of approved helmets for all individuals driving or riding a motorcycle, motorbike, moped or other two-wheeled motorized cycle.

ENA endorses and supports mandatory helmet laws and recommends re-enactment of such laws in those states where they have been repealed.

Approved: February 5, 1984

HOUSE TRANSPORTATION
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Stormont-Vail
REGIONAL MEDICAL CENTER

25 severely injured motorcycle riders were admitted the last 2 years to Stormont-Vail Regional Medical Center. 22 of the 25 were not wearing a helmet. As the chart below indicates, those patients without a helmet tended to have a longer hospitalization, higher charges and lower predicted survival rates.

	HELMET	
	YES	NO
Number	3	22
Avg. Length of Hospitalization	5.7 days	21 days
Average ICU Days	2	12.6
Average Predicted Survival	99%	90%
Number that survived	3	21

These raw numbers do not indicate the post acute care hospital costs. Quality of life post-discharge is also not indicated.

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1500 SW 10th Street • Topeka, Kansas 66604-1353 • (913) 354-6000
VHA

JANUARY 13, 1993

HOUSE TRANSPORTATION COMMITTEE
HOUSE ~~ADMINISTRATION~~ COMMITTEE
1:30 p.m. rm 519

re: Requirement for Motor Cycle Helmets

Chairman Crowell, members of the committee;

Hi, I am Rosemary O'Neil, I represent the Kansas Head Injury Survivors Council. Once again I am here to get someones attention. I still have not figured out the words I should use to express how important the law requiring the use of motor cycle helmets would be. I am the mother of four sons. My third son died in 1981 in a motor cycle accident. He was not wearing a helmet, he was careless but he was not a lawbreaker. Had there been such a law he would have been wearing one. His girlfriend was riding with him, she was wearing her helmet. She spent a long time in the hospital but the last I heard of her, she was living and working in Chicago.
Please recommend to all the other legislators that a law be passed requiring a motor cycle helmet be worn by all riders of motor cycles. There are many more reasons than the loss of federal monies for the state to have this legislation.

Thank you for your consideration.

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SUMMARY OF TESTIMONY
Kansas Highway Patrol
Before the
House Transportation Committee
Motorcycle Helmet Informational Discussion

Presented by
Sergeant Terry L. Maple
January 13, 1993

Since traffic safety is the primary mission of the Kansas Highway Patrol, we are naturally supportive of measures designed to increase the safety of the motoring public.

During past legislative sessions the Patrol has appeared before this committee in support of mandatory motorcycle helmet legislation. Depending on the content of legislation presented this year, we will in all likelihood do the same.

The Patrol is also supportive of other traffic safety enhancement measures. We will remain so and will work diligently with this committee to enhance traffic safety in Kansas.

######

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KANSAS MEDICAL SOCIETY
623 SW 10th Ave. • Topeka, Kansas 66612 • (913) 235-2383
WATS 800-332-0156 FAX 913-235-5114

January 13, 1993

TO: House Transportation Committee

FROM: Kansas Medical Society

SUBJECT: Motorcyclist Injury Reduction

Thank you for the opportunity to express support for the helmet law. Physicians are particularly aware of the severity of injuries sustained by operators and passengers of motorcycles. Oftentimes, physicians must inform family members or others that their loved one is dead or has sustained injuries that will likely result in permanent disabilities. In spite of sophisticated medical technology available to us, the human damage resulting from a motorcycle accident is frequently unrepairable.

According to a comprehensive study by Daniel M. Sosin, M.D. of the Centers of Disease Control, Atlanta, Georgia, there were 28,749 motorcyclist deaths during the period 1979-86. Of that number, 15,194 (53 percent) involved head injury. Furthermore, in states with complete helmet use laws, the death rate from motorcycle accidents averaged 11.7 deaths per million residents per year. By contrast, states with partial helmet use laws (like Kansas) experienced 19.5 motorcycle accident deaths per million population. This equates to 167% of the number of deaths in states with helmet requirements for <u>all</u> operators and riders regardless of age or experience.

We believe the evidence is indisputable. When Louisiana upgraded from a partial law to a complete helmet use law, the number of deaths attributable to motorcycle accidents dropped 44%.

Aside from your responsibility to establish policies which provide for public safety and reduce human suffering, there is another important consideration; cost. In addition to the substantial expense of emergency care rendered to injured motorcyclists, survivors often need extensive and prolonged medical care and other therapy, sometimes requiring nursing home or other institutional facilities. The losses to insurers and taxpayers could certainly be reduced commensurate with the reduction in severity of injuries that accrues from helmet use.

Thank you for considering our concerns.

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Kansans for Highway Safety

JANUARY 13, 1993

TESTIMONY BEFORE THE HOUSE TRANSPORTATION COMMITTEE
IN SUPPORT OF MANDATORY HELMET USE BY MOTORCYCLISTS

I apologize for not being able to appear in person before you to present this information. However, due to other commitments I am forced to submit our comments in writing. The attached information should be of great value as you weigh the pros and cons of this issue. I know you will each take the time to learn as much as you can about this issue before rendering a decision. If you have any questions please feel free to contact me and I will assist in any way I can.

The issue of mandatory helmet use by motorcyclist is a very difficult issue. Many equate it to interfering with the basic rights of an individual saying that non-use only effects the motorcycle operator and no one else. But we all share the burden when one of these tragedies occur. Obviously the best way to reduce head injuries in any class of motor vehicle accident is to eliminate the accident. Most motorcycle accidents are caused by the drivers of other motor vehicles not seeing the cyclist and violating the right of way of the cyclist, let there be no doubt about it that a motor cycle helmet will not prevent the accident from happening. Some will even try to convince us that a helmet will even make an accident more likely to happen. We strongly disagree with this assessment. National studies show that helmet use increases to a near 100% level when the law requires helmet use. Studies also show that between 1966 and 1969 when helmet laws were passed in 40 states the fatality rate per 10,000 motorcycles registered dramatically dropped. From 1976 to 1979 when 27 states repealed their helmet laws the fatality rate per 10,000 motorcycles increased dramatically. (See attached graph.) There is little doubt that once an accident occurs the helmet will prevent many fatal head injuries and many injuries with lifelong consequences.

Kansas currently has a helmet law that requires those under 18 years of age to wear a helmet. However, nationally over 90% of the fatalities have been older than 18. Another national study shows that just under 40% of all motorcycle fatalities died of injuries to the head and about ten percent of all of those injured suffered head injuries. In a four state study (**Kansas**, Colorado, Oklahoma, and South Dakota) the fatal head injuries per 1,000 motorcycle riders involved in collisions was over four times as high for non-helmeted riders as it was with helmeted riders. In Kansas from 1984 through 1989 77% of the fatally injured motorcyclists (169 of the 217 killed) were not wearing a helmet and 80% of those seriously injured (2408 out of 2983) were not wearing a helmet.

The question becomes **"WHY SHOULD WE REQUIRE MOTORCYCLISTS TO WEAR HELMETS?" and 'HOW WILL A CYCLIST NOT WEARING A HELMET EFFECT ME?"** Most operators of vehicles that are the fault of a motorcycle accident are just ordinary people driving in a normal manner that for one reason or another doesn't see the cyclist. Few of these people receive serious injuries from colliding with the cycle, but most will suffer from a life long feeling of guilt when their lack of attentiveness results in the death or permanent disability of another person.

The **MEDICAL COSTS** of motorcycle injuries are astronomical. On page 6 of the attached material is a copy of testimony given to the California Legislature in 1987. Steve Lambert was a 22 year old who lost control of his cycle and was not wearing a

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helmet. His hospital bills totalled over **$800,000** in 1981 and after a year and a half of rehabilitation his medical expenses rose to **over $1,000,000.** He is a quadreplegic and must use a respirator. His insurance paid over a million dollars and **now the taxpayers are paying about $100,000 annually for his care.** This is just one person. Other motorcycle accident medical costs are contained in the attached material. **WHO PAYS THIS BILL?** ***We do.*** Through **insurance rates** to cover what the insurance company pays for, through **taxes** to cover the state and federal health programs that pay these bill, and through **higher medical costs** to cover uncollectable bills owed to hospitals. Motorcycle accidents effect each of us regardless of whether we are the ones directly involved or not. Some opponents to mandatory helmet laws will try to tell you that most cyclists injured are covered by insurance. While that may be true, I don't know of anyone that is paying enough in premiums to cover that kind of medical bill. Insurance companies pay those bills by collecting more in premiums from most of us than we will ever file claims for.

Do helmets create a vision obstruction? Helmet design standards that every legal helmet must meet require a 210^0 field of vision. That is equal to a field of view from between 8 and 9 o'clock to between 3 and 4 o'clock if the cycle is heading towards the 12 o'clock position. A study of 900 motorcycle accidents showed that the 210^0 covered the location of the hazard to the cycle in over 94% of the accidents.

Do helmets cause a hearing problem? Any noise that can be heard over the sound of the cycle and wind should be able to be heard with a helmet on. A helmet will reduce the noise level of the wind and engine noise as well as the other "warning" noises. *But if a rider is genuinely convinced that this will cause a hearing problem the so called half helmets are available where the ears are exposed.*

Do helmets cause neck injuries? Modern helmets are lighter than they used to be and are designed so that the back of the helmet will not strike the neck.

Page 11 of the attached material covers these helmet myths along with others.

It is our opinion that a mandatory helmet law will reduce the permanent injuries and deaths occurring when motorcycles are involved in accidents. This reduction should result in savings to the citizens of Kansas not only in needless suffering but in dollars by saving insurance costs, tax money used for medical care and hospital costs. We urge the committee to carefully weigh the benefits of passing this bill and recommend it favorably.

Ed Klumpp
204 W. 5th
Topeka, Kansas 66603
Phone:913-354-9227

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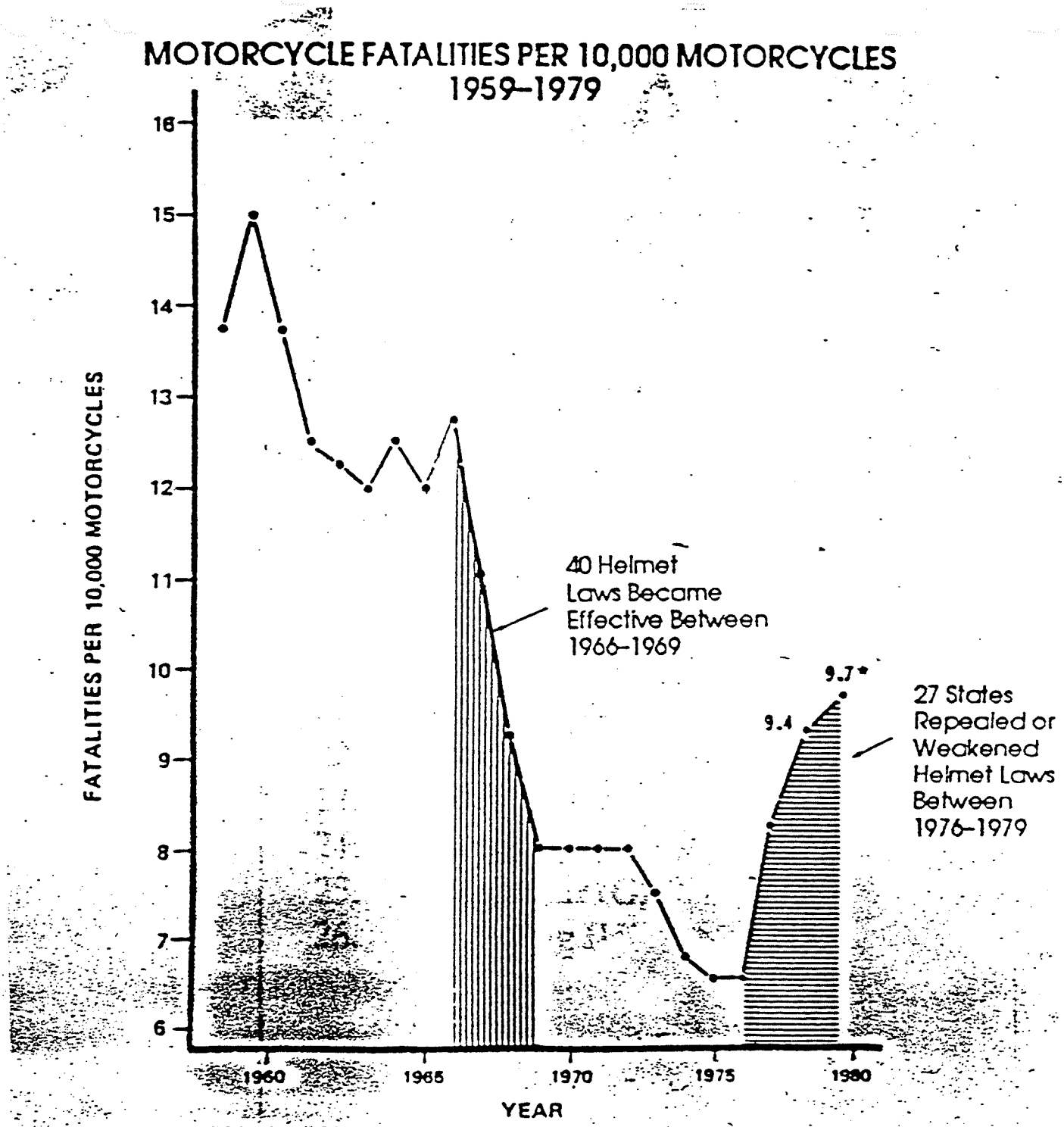
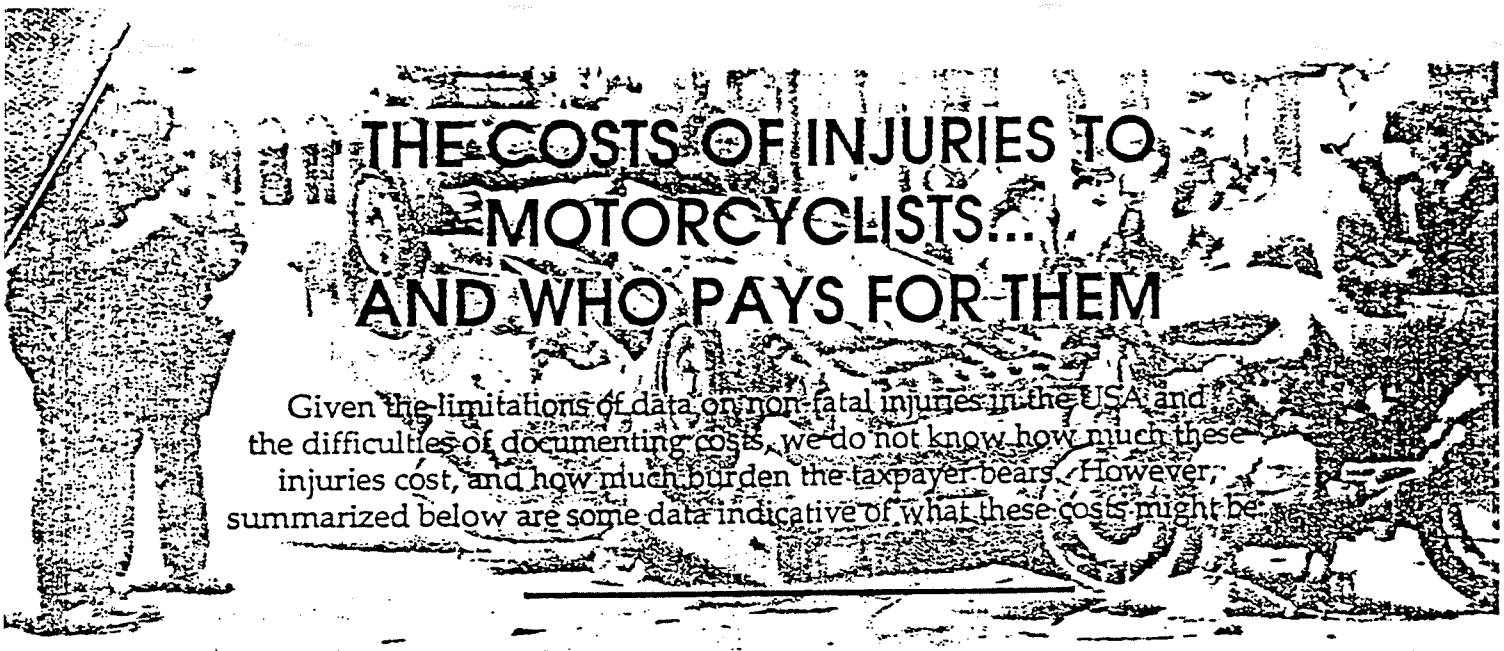


Source: NHTSA, April 1980.

Editor's Note: Elizabeth McLoughlin, Sc.D., contributing editor of this special issue of *Injury Prevention Network,* is a leader in the fight for mandatory helmet use in the state of California. As a member of Californians for Safe Motorcycling, she has been effective in linking research and action and has worked to highlight the role of the disabled community in injury prevention.



THE COSTS OF INJURIES TO MOTORCYCLISTS... AND WHO PAYS FOR THEM

Given the limitations of data on non-fatal injuries in the USA and the difficulties of documenting costs, we do not know how much these injuries cost, and how much burden the taxpayer bears. However, summarized below are some data indicative of what these costs might be.

SAN DIEGO COUNTY EMERGENCY MEDICAL SERVICES DATA: AUG '85- JULY '87.

1) The average hospital costs for:
   - injured *helmeted* motorcyclist was $15,851;
   - injured *non-helmeted* motorcyclist was $42,291.

2) The approximate total hospital costs for:
   - all injured *helmeted* motorcyclists were $250,000;
   - all injured *non-helmeted* motorcyclists were $1,500,000.

3) 26% reimbursed by MediCal or County medical system, 29% not reimbursed (Cooper, 1987).

ARIZONA HEALTH SCIENCES CENTER: JULY '85-JUNE '86.

1) The average hospital costs for:
   - injured *helmeted* motorcyclist was $13,368;
   - injured *non-helmeted* motorcyclist was $17,120.

2) Of the 12 (of 71) patients who became permanently impaired, *none had worn a helmet during the crash, and 10 sustained severe head injuries* (Bried *et al*, 1987).

BRACKENRIDGE HOSPITAL (AUSTIN, TEXAS): FEB '85 - JAN '86.

1) The average hospital costs for:
   - an injured *helmeted* motorcyclist was $7,211;
   - an injured *non-helmeted* motorcyclist was $17,155.

2) Regarding insurance:
   - 27% of injured *helmeted* motorcyclists had no insurance;
   - 41% of injured *non-helmeted* motorcyclists had no insurance (Lloyd, 1986).

UNIVERSITY OF CALIFORNIA-DAVIS MEDICAL CENTER: 1980-1983.

1) The average hospital charges for motorcyclists with open fractures were $17,704.

2) 72% of hospital charges paid by state of California; additional 10% by other tax-based sources (Bray, 1985).

MASSACHUSETTS GENERAL HOSPITAL: JULY '82-JUNE '83.

1) The average hospital charges for motorcyclists were $15,114.

2) *46% of these patients were uninsured* (Bach, 1986).

ILLINOIS REGIONAL TRAUMA CENTERS: 1981-82.

1) The average hospital costs for motorcyclists:
   - *with fatal head injuries* were $19,166 (average non-fatal costs were $6,847);
   - *with fatal injuries* (other than head) were $12,125 (non-fatal costs were $5,557).

2) 25% of patients had no insurance (Mortimer, 1984).

KENTFIELD HOSPITAL, MARIN COUNTY, CALIFORNIA: 1985-86.

This private rehabilitation hospital treated seven non-helmeted motorcyclists with severe head injuries. The average length of stay was 152 days, at $850 per day. This adds up to $904,400, paid by private insurance and Medi-Cal. All were in profound comas which resulted in transfers to long-term chronic care facilities, rarely covered by any private insurance (Flynn, 1987).

What Kills Motorcyclists?

Fatal Head Injuries, That's What.

Data from the National Accident Sampling System (NASS) indicate that from 1982-1985 roughly 50 per cent of all fatalities were caused by injuries to the head, neck or face with about 3/4 of these injuries being to the head. For nonfatal injuries, roughly 20 per cent were head, face or neck injuries with roughly half being to the head.

NHTSA funded studies of the effect of helmet law repeal (see table at right). These studies provide documentation of the risk of fatal head injuries to helmeted and non-helmeted riders, should a crash occur (NHTSA, April 1980).

Fatal Head Injuries
Per 1000 Crash-Involved Riders
(Helmeted vs. Nonhelmeted)

State	Helmeted	Nonhelmeted
Colorado	9	23
Oklahoma	11	63
South Dakota	13	38
Kansas	6	41

Source: NHTSA, April 1980.

"The crash helmet is effective in diminishing local damage to the brain and its coverings at the site of impact, and it tends to lower the incidences of prolonged amnesia."

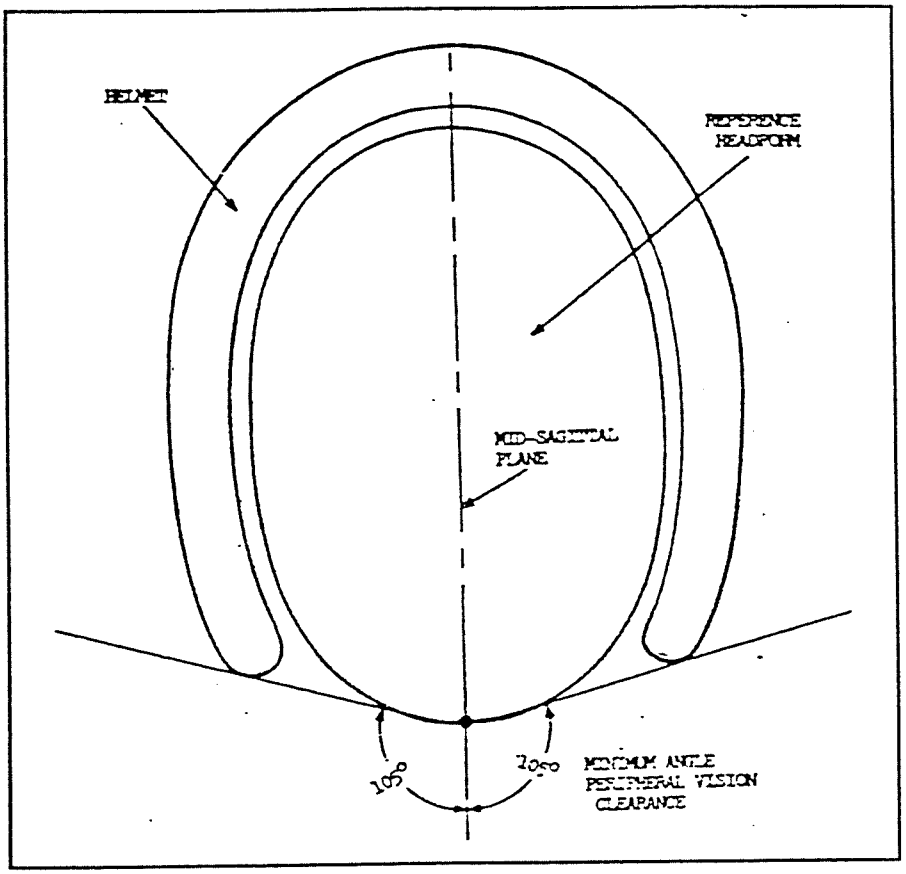
—Cairns, H, Holbourn H. 1943. Head injuries in motorcyclists. (*British Medical Journal* 1943 1:591-598.)

HOW MUCH PROTECTION DOES A STANDARD HELMET OFFER?

Most state helmet use laws require the wearing of helmets which meet existing standards. Below in extremely simplified form are the basic requirements of the DOT standard.

Department of Transportation Motorcycle Helmet Standard:

from the Code of Federal Regulations: Transportation (49): Section #571.218.



THE HELMET MUST "CUSHION" THE BLOW TO THE RIDER'S HEAD WHEN THE HELMET STRIKES A BARRIER.

The tests use an instrumented headform as a proxy. In a series of tests, the helmet is dropped in a guided free fall upon fixed hemispherical and flat steel anvils from the heights of 54.5 inches and 72 inches. Measurements on the headform must meet the following requirements:
"(a) Peak accelerations shall not exceed 400g;
(b) Accelerations in excess of 200g shall not exceed a cumulative duration of 2.0 milliseconds; and
(c) Accelerations in excess of 150g shall not exceed a cumulative duration of 4.0 milliseconds."

FOREIGN OBJECTS MUST NOT PENETRATE THROUGH THE HELMET TO THE RIDER'S HEAD.

The "foreign object" in the test is a 6 pound, 10 ounce pointed "striker" (point has included angle of 60 , a cone height of 1.5 inches, a tip radius of 0.5 millimeter radius). The "striker" is twice dropped in a guided free fall of 118.1 inches, and "the striker shall not contact the surface of the test headform."

THE HELMET'S STRAPS MUST STAY FASTENED WHEN STRESSED.

The test applies static tensile load to the straps, or "retention assembly." First, a 50-pound load is applied for 30 seconds, then an additional 250-pound load is applied for 120 seconds. The straps must not separate, and the adjustable portion cannot move more than one inch when the additional load is applied.

THE HELMET MUST NOT OBSTRUCT VISION.

Each helmet must provide "peripheral vision clearance of at least 105° to each side of the midsagittal plane," or in other words, provide 210° angle of vision for the wearer (see above).

THE HELMET MUST BE LABELED.

Each helmet must be permanently and legibly labeled with several items of information, including the symbol "DOT," the manufacturer's certification that the helmet conforms to the standard.

THE SNELL STANDARD

There are two major motorcycle helmet standards recognized in the United States, The U.S. Department of Transportation (DOT) standard and the "1985 Standard for Protective headgear, For Use with Motorcycles and Other Motorized Vehicles" developed by the Snell Memorial Foundation. The Snell standard, first proposed in 1959 for racing crash helmets and revised five times since then, is the more demanding of the two. Information about this standard can be obtained from the Snell Memorial Foundation, P.O. Box 733, Wakefield, RI 02880. ■

FACTS, NOT MYTHS, ABOUT MOTORCYCLE HELMETS

FACT ONE: *HELMETS DO NOT OBSTRUCT CRITICAL VISION.*

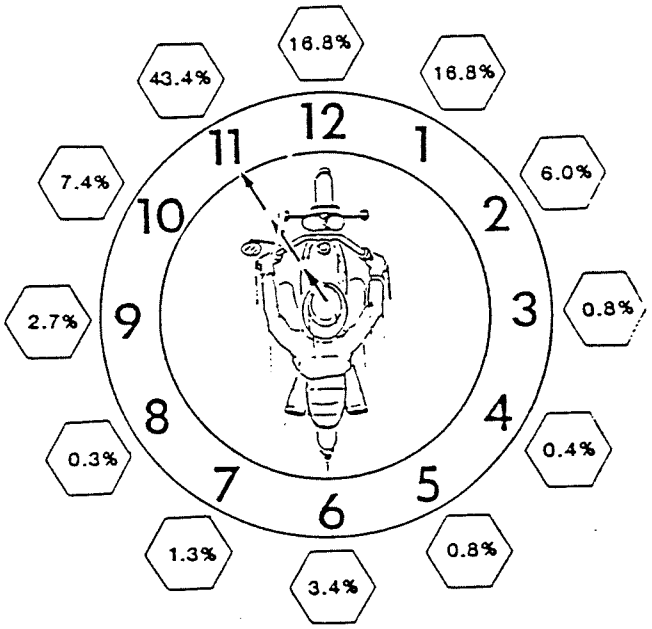
The figure at right shows where the crash hazards were located *from the rider's point of view* during the pre-crash phase in the 900 motorcycle crashes investigated by the USC Traffic Safety Center. For example, a car straight ahead would be at the 12 o'clock location. Seventy-seven per cent of the hazards were at the 11, 12 and 1 o'clock positions. Over 90 per cent fell within the 10 to 2 o'clock locations. The DOT standard requires no restriction of peripheral vision as far back as the 4 and 8 o'clock positions. The visual problem is not restriction of peripheral vision. Instead, it is a matter of watching what is directly in front of the motorcycle and protecting one's eyes to assure full visual acuity (Ouellet, 1987).

FACT TWO: *HELMETS DO NOT INTERFERE WITH CRITICAL HEARING.*

Any sound loud enough to be heard over the noise of the motorcycle and the wind will be loud enough to be heard inside the helmet. Motorcycles create noise in the range of 85-95 decibels. Helmets reduce the loudness of both the sound of interest (*e.g.*, a car's horn) and the motorcycle noise by an equal amount, but do not alter the ability to hear one over the other. No case of the 900 on-scene, in-depth investigations in the USC study revealed a failure to detect critical traffic sounds, for helmeted or unhelmeted riders (Hurt, 1981).

FACT THREE: *HELMETS DO NOT CAUSE NECK INJURIES.*

In the USC investigation (Hurt, 1981) of 900 motorcycle crashes, spinal cord injuries occurred only in very severe, high energy crashes. In these high-speed crashes the riders died of multiple injuries of which spinal cord injury was only one. In the 846 nonfatal crashes, no rider suffered a spinal cord injury. Helmeted riders get fewer neck injuries at most levels of severity. Helmets may help to REDUCE neck injuries (which are usually the result of head impact). They certainly have NOT been found to pose any increased hazard (Ouellet, 1987).



11+12+1: 77.0%

10+11+12+1+2: 90.4%

5+7: 2.1%

FACT FOUR: *HELMETS DO NOT BUILD UP DANGEROUS TEMPERATURES INSIDE THE HELMET.*

Motorcyclists are less likely to wear helmets voluntarily in very hot weather. However, the USC researcher testified that temperature readings inside helmets show that temperatures stabilize slightly above body temperature. The insulation of the helmet makes its interior more subject to body heat than to outside temperatures (Ouellet, 1987).

FACT FIVE: *HELMETS DO NOT CAUSE FATIGUE WHICH CAUSE CRASHES.*

The USC study of 900 motorcycle crashes found that 50% of the crashes occurred within six minutes from the start of the trip and over 90 per cent occurred in less than one hour of the start of the trip (Hurt, 1981). ■

"The only significant protective equipment is the qualified safety helmet, and it is capable of spectacular reduction of head injury frequency and severity. This research shows no reasons for a motorcycle rider to be without a safety helmet; qualified helmets do not limit vision or hearing in traffic or cause injury."

—Hurt HH, Ouellet JV, Thom DR. 1981. Motorcycle Accident Cause Factors and Identification of Countermeasures. (NHTSA, 1981)

WHY REQUIRE HELMET USE AND NOT MOTORCYCLIST TRAINING?

Right now, the evidence supports the effectiveness of helmet laws to reduce the likelihood of fatal and severe head injuries to motorcyclists. To date there exists little evidence of the effectiveness of motorcycle training programs to reduce the likelihood of crashes.

In early 1979, NHTSA decided to fund a large scale evaluation of the crash reduction effectiveness of revised motorcycle operator training and licensing programs and materials. After competitive bidding, the contract for the evaluation was given to the New York Department of Motor Vehicles. Investigators randomly assigned over 26,000 persons to one of four groups: 1) standard NYS program, 2) revised program including new knowledge and skill test, 3) revised program with a three hour training program, and 4) revised program with a 20 hour training program. They then examined crash records for these persons for five exposure periods (3, 6, 12, 18, and 24 months) after application for a motorcycle operator's permit.

The basic conclusions of the study completed in 1987 are stated as follows (Buchanan, 1987):

> "These analyses found no significant differences between the motorcycle accident rates of subjects assigned to the present New York State licensing system (control group) and those assigned to the new, experimental licensing system, either for all subjects from the point of motorcycle permit application date or for licensed subjects from the point of licensure date. In other words, the study was not able to document a crash reduction benefit for either the rider education programs or the improved licensing system."

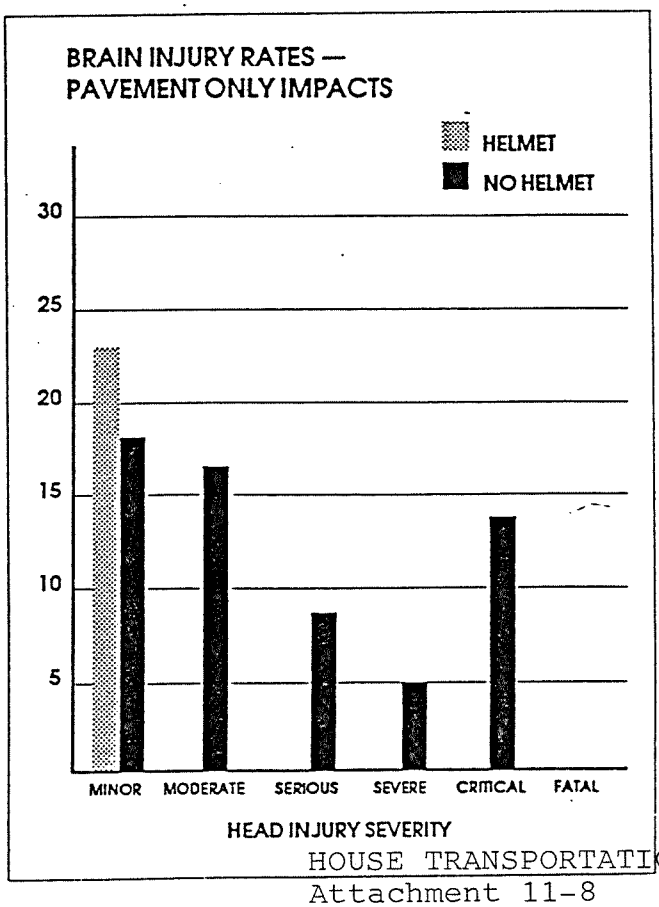
These are disappointing results for riders and trainers whose personal experience convinces them of the benefits of training, but these findings must enter the public policy debate. In recent legislative debate, opponents of the helmet bill argue that training *rather than* mandatory helmet use is the answer to the problem of motorcyclist deaths and injuries. The data do not support this choice. ■

PAVEMENT-ONLY STRIKES IN MOTORCYCLE CRASHES

Pavement is the most common surface struck by motorcyclists, and helmets are extremely effective in pavement impacts (see right). When studying crashes when the pavement was the only surface against which the rider struck his head, the USC study found that none of the helmeted riders had any brain injury above the "minor" level. In contrast, riders without head protection suffered a total of 65 brain injuries per 1000 crashes, at all levels of brain injury severity, as a result of pavement-only strikes (Ouellet, 1987).

"Riders without helmets had twice the overall head injury rate as helmeted riders and up to six times the critical or fatal head injury rate. Helmet usage [in Colorado, South Dakota, Kansas and Oklahoma] decreased sharply after their helmet laws were repealed... head injury rates incresaed after helmet law repeal."

—NHTSA, 1981.
The Effects of Motorcycle Helmet Usage on Head Injuries, and the Effects of Usage Laws on Helmet Wearing Rates.



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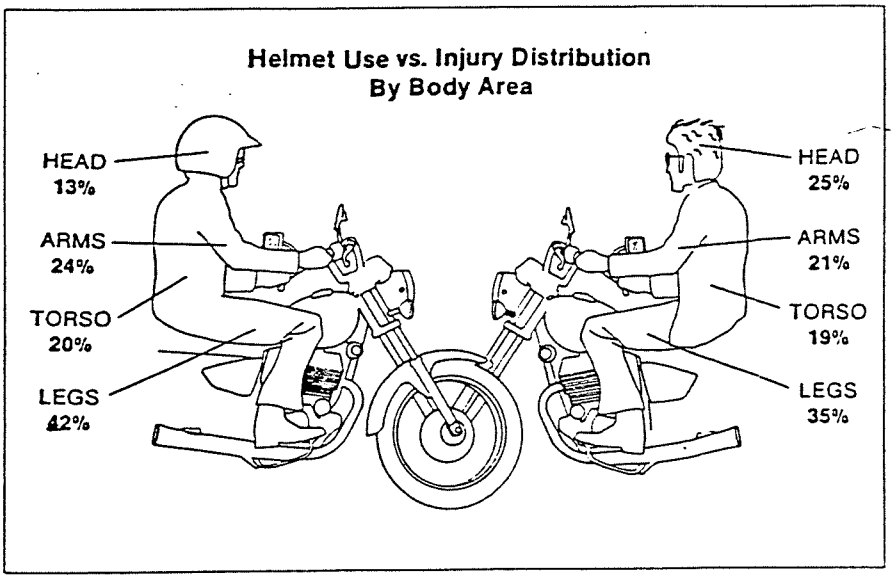

The distribution of injury by body part involved is dependent upon helmet use at the time of crash. For those without helmets, 25% of the injuries are head injuries. For those with helmets,only 13% sustain head injuries (NHTSA, September 1980).

HOUSE TRANSPORTATION
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ESTIMATED COSTS AND FATALITIES RESULTING FROM NON-USE OF MOTORCYCLE HELMETS

KANSAS ACCIDENTS
1984 through 1988

The following data is from a study conducted by the National Center for Statistics and Analysis, Mathematical Analysis Division, using 1984 through 1988 Fatality Accident Research data.

Fatalities with helmet worn	42
Fatalities without helmet worn	149
Fatalities unknown if helmet worn	10
Fatalities prevented by helmet use	18
Fatalities that would be prevented by 100% helmet use.[1]	64
Costs saved by helmet use	$ 8,632,304
Costs saveable with 100% helmet use[2]	$ 31,610,127

[1] Includes those prevented by helmet use.

[2] Includes costs saved by current helmet use.

HOUSE TRANSPORTATION
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