

Approved 3-17-92
Date

MINUTES OF THE SENATE COMMITTEE ON TRANSPORTATION AND UTILITIES

The meeting was called to order by Sen. Bill Morris at
Chairperson

9:02 a.m./p.m. on February 25, 1992 in room 254-E of the Capitol.

~~All members were present except~~ Members present:

Senators Morris, Doyen, Brady, Hayden, Kanan, F. Kerr, Martin, Sallee, Thiessen and Vidricksen.

Committee staff present:

Ben Barrett, Legislative Research Department
Hank Avila, Legislative Research Department
Bruce Kinzie, Revisor of Statutes
Louise Cunningham, Committee Secretary

Conferees appearing before the committee:

Rosalie Thornburgh, Administrator, Office of Traffic Safety, Kansas
Department of Transportation
Capt. Terry Scott, Kansas Highway Patrol
Rosemary O'Neil, Head Injury Survivors Council, Topeka
Sgt. Charles Walker, Topeka Police Department
Noel P. Poull, Lawrence
Ed Klumpp, Kansas for Highway Safety, Topeka
Gloria Solis, RN, St. Joseph Medical Center, Wichita
Chip Wheelen, American College of Emergency Physicians, Topeka
Paula Marmet, Director, Chronic Disease and Health, Department of Health
and Environment
Janet Williams, Kansas Head Injury Association
Ken McNeill, McPherson, ABATE
Jacque Sue, Garden City
Roger McCollister, Topeka
Kelly Wendeln, Chanute
Laurie Blush, Silver Lake
Dave Mann, President, ABATE, Perry

Hearing on S.B. 644 - Motorcycles, requiring wearing of helmets.

PROPONENTS

Rosalie Thornburgh, KDOT, said new federal legislation provides for the application of incentive grant funds to be used toward motorcycle safety and passenger vehicle safety upon passage of appropriate legislation. Failure to pass helmet law legislation prior to October 1, 1993 would result in a loss of highway funds. It would not be a loss of federal funds, but a transfer of funds from highway construction to a highway safety program. Passage of S.B. 644 would bring Kansas into compliance and would remove the possibility of KDOT transferring highway construction funds to the highway safety program. A copy of her statement is attached. (Attachment 1).

Capt. Terry Scott, Kansas Highway Patrol, said automobiles have been made much safer in the past decade for both driver and occupants. Motorcycles have changed little in their ability to protect the rider in the event of an accident. The only protection offered is a helmet, which in many cases, the rider fails to put on. They support passage of S.B. 644. (Attachment 2).

Rosemary O'Neil, Kansas Head Injury Survivors Council, said her son died as a result of a motorcycle accident. He was not wearing a helmet. She urged passage of this bill. (Attachment 3).

Sgt. Charles Walker, Topeka Police Department, said he was the instructor for the Motorcycle Unit of the Topeka Police Department and was a former professional motorcycle racer. He said from first hand experience he knew that safety helmets do work. A copy of his statement is attached. (Attachment 4).

Noel P. Poull, Lawrence, said he has been an avid motorcyclist for 15 years. He had an accident in 1991 when his cycle hit an 18-wheeler and then hit a concrete

Unless specifically noted, the individual remarks recorded herein have not been transcribed verbatim. Individual remarks as reported herein have not been submitted to the individuals appearing before the committee for editing or corrections.

guardrail. He was wearing a helmet and feels it saved his life. He said it is the responsibility of a democracy to make laws to protect itself and its members. A copy of his statement is attached. (Attachment 5).

Ed Klumpp, Kansans for Highway Safety, spoke of the very high medical costs involved for every one of us because of higher insurance rates, taxes to cover the high medical bills and costs to cover uncollectible bills owed to hospitals. He also said helmets do not obstruct vision or cause hearing problems, and they are now made of lighter materials and are designed so that the back of the helmet will not strike the neck. A copy of his statement is attached. (Attachment 6).

Chip Wheelen, American College of Emergency Physicians, said in states which have complete helmet laws the death rates average 11.7 deaths per million residents per year while Kansas, with a partial helmet law, experienced 19.5 deaths per million population. In addition, survivors often need extensive and prolonged care. A copy of his statement is attached. (Attachment 7).

Paula Marmet, Department of Health and Environment, said while the overall number of motorcycle accidents is low, most of the collisions result in injury and head injuries are the leading cause of death. (Attachment 8).

Gloria Solis, R.N., St. Joseph Medical Center, said she works in the Trauma Center and only the most critical patients are sent there. Of 160 motorcyclists involved in crashes since 1988 only 25 of the victims admitted to the Trauma Center were wearing helmets. Their injuries are major in nature and the brain injured do not recover quickly. Recovery is often a lifelong process. A copy of her statement is attached. (Attachment 9).

A letter in support of S.B. 644 to Sen. Bill Morris from Kansas Highway Users Conference signed by James O. Foster dated February 20, 1992 was submitted to the committee. (Attachment 10).

A letter in support of helmets was submitted by Donovan Lee. Kansas Rehabilitation Hospital dated February 25, 1992. (Attachment 11).

A chart entitled "Motorcycle Fatalities in Kansas" from the Department of Transportation was submitted. This shows the total number of motorcycle fatalities from 1984 to 1991 and separates those wearing helmets and those without. (Attachment 12).

OPPONENTS

Kenneth McNeill, ABATE, said that motorcyclist fatalities have dropped by nearly 40% during the 1980's. He disputed some of the facts given by the proponents and said many of the fatalities would not have been prevented by a helmet. He said there were many more head injuries caused by automobile accidents and motorcycles are involved in only 1.1% of the accidents. Motorcycle accidents make up only 1/10 of 1% of all medical expenses. A copy of his statement is attached. (Attachment 13).

Jacque Sue, said her health will not permit her to ride a motorcycle so she has had a trike modified so she can ride it. She says that the weight of a helmet would not permit her to wear it. She said most helmeted riders die of a broken neck. She urged that legislators not be "blackmailed" by the federal government by the threat of withheld funds. (Attachment 14).

Roger McCollister, is an attorney and has been riding a motorcycle since age 14. He felt there should be better highway safety and education programs. He recommended an interim study. (Attachment 15).

Kelly Wendeln, said that fatalities go up every time Kansas passes a helmet law. He maintained that we cannot afford a helmet law this year and have fatalities skyrocket. He also said that editorials in the newspapers have made false claims about the number of fatalities. A copy of his statement is attached. (Attachment 16).

Laurie Blush said helmets are very expensive and the federal government was interfering too much in this matter. (Attachment 17).

CONTINUATION SHEET

MINUTES OF THE SENATE COMMITTEE ON TRANSPORTATION AND UTILITIES,
room 254-E, Statehouse, at 9:02 a.m./~~p.m.~~ on February 25, 1992

Dave Mann, President, ABATE, said motorcyclists have to drive defensively and be alert at all times. Many of them feel hampered and restricted by the helmets. They do not discourage the use of helmets but feel it should be freedom of choice. A copy of his statement is attached. (Attachment 18).

A letter was submitted to the committee from Randy Garcia, President, HAWG MC, Kansas, dated February 24, 1992. The letter states that they are concerned about the loss of freedom to choose. Many of them are veterans and felt they were protecting this country's freedoms. Now they feel their freedom is being taken from them. A copy of the letter is attached. (Attachment 19).

Meeting was adjourned at 10:00 a.m. Next meeting February 26, 1992.

SENATE TRANSPORTATION AND UTILITIES COMMITTEE

Date 2-25-92 Place 254-E Time 9:02

GUEST LIST

NAME

ADDRESS

ORGANIZATION

~~Holly Wendler~~ ~~Chenute~~

Ed Klump

204 W 5TH Topeka

KANSAS FOR HIGHWAY SAFETY

Michael Engstrom 3100 GIRARD

Motorcycle rider

LARRY D Hinton 3301 Fremont

rider

NELSON L BURGEN

2502 WISCONSIN

ABATE RIDER

DON LARLIZ

REC

ROSEMARY O'NEIL

2005 Buchanan

HEAD INJURY SURVIVORS COUNCIL

Pam Becker

RT 1 Box 129 Milford

Independent Rider

SAMUEL TORRESON

7021 SE 29TH Emporia

rider

LEONARD GRABER

Box 81 Peru, Ks

ABATE of Ks

Mary P Sperry

Box 156 Niotaze Ks

Rider

Wanda [unclear]

721 SE 22ND Topeka, Ks

person

Terrence Nise

1180 M.D. Ford Topeka

ABATE Business Owner

Vicki e Puff

BR#6 Topeka

ABATE

HENRIETH A MINNICK

650 ELM PERCY

ABATE

Thomas Northrup

939 MIAMI K.C. Ks.

ABATE.

SENATE TRANSPORTATION AND UTILITIES COMMITTEE

Date 2-25-92 Place 254-E Time 9:02

GUEST LIST

NAME ADDRESS ORGANIZATION

NAME	ADDRESS	ORGANIZATION
Richard J. Waldman	4 N. Mill St KC Kan	ABATE
DAVE MANN	PO Box 308 McLeouth, KS	President ABATE of KANSAS
DORIS ANN MANN	Box 308 McLeouth KS	ABATE of KS MASW
Jacque Sue	2002 Downing, Garden City, KS	ABATE of KS
MIKE JOHNSON	709 N. Chestnut, Olathe, KS	ABATE of KS
Darwin Dallinga	229 W. Main Riley, KS	ABATE of KS
^{Karla Petty} Carmen Dallinga	779 N Main Riley KS	EMS + ABATE of KS
Randy Hatch	922 Kearney Manhattan, KS	ABATE of KS
RICHARD G BRUNO JR	119 West 18th St J.C., KS	ABATE of KS & HAWKS MO
Rick Borsella	7047 LEAVENWORTH RD K.C. KS	DIST #5 Rep ABATE of Kansas
JEAN CLEAVE	944 Northrup KC KS	ABATE OF KANSAS
Billy Cleave	944 Northrup KC KS	Abate of Kansas
Paris Mingo	31 Logan Leav. KS.	Pres. KI-worth Riders Assc.
Vaughn Jenkins	1023 Kiow Leav KS	Tres. KI-worth Riders
Patsy Woodard	3817 Parkwood Blvd Mo KS	ABATE OF KS DIST 15

SENATE TRANSPORTATION AND UTILITIES COMMITTEE

Date _____ Place _____ Time _____

GUEST LIST

NAME	ADDRESS	ORGANIZATION
Susan Baker	6301 Rockhill Rd #100, KC MO 64131	USDOT, N.H.T.S.A.
Dennis Slimmer	Docking State Office Bldg.	Kansas DOT Planning
Roger McCallister	712 S. Ks Ave #200	Topeka, KS 66605
Nancy Bauder	R4 Box 241A	Leavenworth 66048
Chip Wheelen	Topeka	Ks Chpt, Amer. Emerg. Phys.
Charles Walker	Topeka	Topeka Police Dept.
Jim Schief	Bellevue KS	ABATE of KS & MRF
Pamela Wise	Kansas City	ABATE
Brian Stephens	Kansas City	ABATE OF KANSAS
Lisa Johnson	Olathe, KS 709 N. Chestnut	ABATE of KS



KANSAS DEPARTMENT OF TRANSPORTATION

Michael L. Johnston
Secretary of Transportation

Docking State Office Building
Topeka 66612-1568
(913) 296-3566
FAX - (913) 296-1095

Joan Finney
Governor of Kansas

TESTIMONY BEFORE
SENATE TRANSPORTATION AND UTILITIES COMMITTEE
REGARDING S.B. 644:
REQUIRING THE WEARING OF HELMETS UPON A MOTORCYCLE
February 25, 1992
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 testimony on the proposed legislation.

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. The proposed legislation would extend that requirement to all ages.

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 \$1.5 million in FFY95 and \$3 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. I would be happy to go into further detail at this time.

Att. 1
T&U
2/25/92

Testimony SB 644
February 25, 1992
Page Two

Information from the National Highway Traffic Safety Administration (NHTSA) indicates that an un-helmeted motorcyclist is 40 percent more likely to incur a fatal head injury and 15 percent more likely to incur a less severe head injury than a helmeted motorcyclist. NHTSA estimates that motorcycle helmets reduce the likelihood of a fatality by 29 percent. I have attached a motorcycle fact sheet which describes the motorcycle crash picture in Kansas in 1990. Thirty six (36) fatalities resulted from over 1300 crashes, of those fatalities 19% were wearing helmets. The fatality rate of drivers killed wearing helmets is 2.16 per 100, non-helmeted fatality rate is 4.3 per 100. The cost of those crashes and injuries are quantified at \$28.8 million. The fact sheet analyzes available 1990 statistics in several ways.

In summary, passage of SB 644 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 testimony. I will be glad to try and respond to any questions you may have.

Kansas Department of Transportation
February 25, 1992

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 K.S.A. 8-1598 would require modification to bring Kansas into compliance with the helmet program requirement.

Availability of Funds:

FY92 through FY94 only.

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.

KDOT Section 153
February 25, 1992
Page Two

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

Amount of Grants:

The aggregate amount each state received in all three years cannot exceed 90% of FY90 apportionment. There is not enough funding to permit 90% to all states qualifying. Current interpretation and proposed allocation indicates that the amount any state receives is contingent on the number of states qualifying and applying and the dollars available. Currently 25 states now qualify, excluding Kansas.

Approximate estimate for Kansas if qualifying in FY92: \$275,428

Each year's dollars will be allocated independently based on dollars and recipients. Another estimate made by the NHTSA regional office indicates that Kansas could, over the three year period, receive 50% of the FY90 apportionment, or approximately \$800,000 if every state qualified.

Compliance usage rates:

Second year:

Helmet usage rate attained in first year 75%
Belt usage rate attained in first year 50%

Third year:

Helmet usage rate attained in second year 85%
Belt usage rate attained in second year 70%

Penalty:

If laws not passed by September 30, 1993, (Anytime during fiscal year 1994), 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 laws not passed by September 30, 1994 (or any time in a fiscal year beginning after 9/30/94) 3 percent of highway construction funds apportioned for the succeeding fiscal year shall be transferred to the apportionment under section 402.

The current interpretation of the law applies the percentage of transfer to those funds apportioned to the National Highway System, Congestion Mitigation and Air Quality Improvement Program and the Surface Transportation Program. The estimated amount of apportionment to Kansas and the transfer, if required, are as follows:
 follows:

	1995 Apportionment	1-1/2% Transfer	1996-7 Apportionment	3% Transfer
NHS	\$48,100,000	\$48,200,000
Cong. Mit.	\$4,900,000	\$5,000,000
STP	<u>\$51,500,000</u>	<u>.....</u>	<u>\$51,500,000</u>	<u>.....</u>
Total	\$104,500,000	\$1,600,000	\$104,700,000	\$3,100,000

IMPORTANT NOTE: THE ISTE A IS CURRENTLY UNDERGOING INTERPRETATION BY USDOT. THIS SYNOPSIS IS BASED UPON CURRENT KNOWLEDGE AND GUIDELINES RECEIVED AT THIS TIME.

KANSAS
MOTORCYCLE FACTS SHEET
FOR THE YEAR 1990

There were 1,377 motorcycle crashes

- * 2.5% were fatal crashes
- thirty-six motorcyclists died
- * 75% were injury crashes
- 1,278 were injured (1,163 cyclists)
- * 22% were Property Damage Only (PDO) crashes
- 1,723 were involved (538 cyclists)

These crashes amount to 3.7 crashes per day -
resulting in -
3.5 injuries per day,
4.7 individuals involved in PDO crashes per day,
and
one fatality every ten days

Of the injury crashes, 26% result in serious or
incapacitating injuries, (95% to cyclists)

The cost of all crashes, including wages lost, medical
expenses, insurance administration costs and property damage
is \$28.8 million

Seven (19%) of the 36 fatalities were wearing helmets

223 (19%) of the 1,163 injured were wearing helmets

Motorcycle registration is approximately 3% of all
registered vehicles in Kansas, but -

Motorcycle fatalities represent eight percent (a
disproportionate amount) of the 444 motor vehicle fatalities
in Kansas 1990

The fatality rate of drivers killed wearing helmets is 2.16
per 100, non-helmeted fatality rate is 4.3 per 100

** Based on preliminary 1991 data the following is evident**
**
** Forty nine motorcyclists died, with seven (14%) wearing**
** helmets **
**
** 49 of the total reported preliminary fatalities (403) **
** indicates that motorcyclists represent a dispropor- **
** tionate 12% of all motor vehicle fatalities in 1991 **

SUMMARY OF TESTIMONY

Before Senate Transportation and Utilities Committee

February 25, 1992

Presented by the Kansas Highway Patrol

(Captain Terry Scott for Colonel Bert Cantwell)

The Patrol supports passage of SB #644, which requires all motorcycle riders to wear an adequate helmet. As a traffic law enforcement agency, members of the Patrol see first hand the results of accidents involving both automobiles and motorcycles.

Automobiles have been made much safer in the past decade for both drivers and occupants. Motorcycles on the other hand have changed little in their ability to protect the rider in the event of an accident. The only protection offered, is that which the rider puts on or in many instances, fails to put on. Motorcycle accidents too often result in injury to the rider, though the accident many times was not caused by the motorcyclist. Even low speed accidents can result in serious injuries if the head is exposed.

In the interest of traffic safety, the Patrol requests passage of SB #644.

Att. 2
T&U
2/25/92

Senate Transportation and Utilities

9:00 a.m.

February 25, 1992

re: SB 644

Chairman Morris;

Members of the committee:

I am Rosemary O'Neil, I represent the Head Injury Survivors Council. Unlike many head injury survivors, I did not receive my injury as a result of a motorcycle accident, however, my son died as a result of one in 1981, while not wearing his helmet. Fortunately, his girlfriend who was a passenger on his motorcycle, was wearing a helmet. She spent several days in the hospital and a long time healing but the last time I heard, she was living and working in Chicago.

PLEASE PASS THIS BILL!!

Recommend to all other legislators, that this bill become law. Medical science has progressed so far that more and more people live through severe accidents. We will all be up to our hips with people like me.

Thank you for your consideration.

I will be glad to answer any questions.

Att. 3
T&U
2/25/92

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Mr. Chairman and members of the committee. I am Sgt. Charles Walker with the Topeka Police Department. I am here to speak in support of House Bill No. 2129 concerning mandatory use of safety helmets.

At the present time I am the Officer in charge of the Motorcycle Unit of the Topeka Police Department and the instructor for the program. I am certified as a Motorcycle Instructor / rider by the Institute of Police Technology and Management as well as Central Missouri State University. Prior to joining the Topeka Police Department I was a professional motorcycle racer as well as being employed in the motorcycle industry. I have had extensive connections with safety helmets in use, sales and development. During my racing carrier I was employed by the BUCO helmet mfg. Co. to aid in development of safety helmets.

Members of the Committee I am here to tell you that safety helmets do work. I am speaking from first hand, personal experience that impacting the ground at speed may be survived if you are properly prepared. In 1987 the City of Topeka experienced seventeen fatality accidents. Of these seventeen five, almost 1/3, were involving motorcycles. Death in all cases were directly related to head injuries. One, which I became involved by checking the condition of the motorcycle, occurred on 07/24/87. Attached you will find a copy of the autopsy report as well as a statement by the coroner "The nature of the injuries also indicate the likelihood that he would have survived with little harm, had he been wearing a helmet." Another Coroner's report from 1988 is attached with the same conclusion, head injuries.

By 1966 the United States were experiencing approx. thirteen death's per. 10,000 registered motorcycles. Between 1966 and 1969 forty States enacted helmet laws and by 1969 that number had dropped to approx. eight fatalities per 10,000. With these laws in effect that number continued to drop until in 1975 we were experiencing less that seven deaths per 10,000. Then between 1976 and 1979 twenty seven States repealed or weakened helmet laws and by 1979 the fatalities again had risen to 9.7 per. 10,000. This obvious correlation between death's and helmet's cannot be ignored.

The individual actions of motorcycle riders are beyond our control, but there ability to legally ride on the street is not. If by requiring the use of helmets we are able to decrease the number of death's and injuries the effort is well spent.

Attached you will find four copies of articles and pictures of motorcycle crashes that the riders survived and in all but one got up and walked away. Attachment number five is entitled "Facts not myths about motorcycle helmets" and attachment number six "How much protection does a standard helmet offer." Both of these articles offer excellent insight on helmets . Also attached fatality facts from 1980 to 1989.

Att. 4
T&U
2/25/92

AUTOPSY REPORT

NAME:	DATE OF DEATH:	7/25/87
AGE:	DATE OF AUTOPSY:	7/26/87
CORONERS CASE NO:	FORENSIC AUTOPSY NO:	FA87-77

SUMMARY OF FINDINGS:

1. Major closed head injury, with/including:
 - a. Subcutaneous and subgaleal hemorrhage, most prominently on right side.
 - b. Non-depressed right temporal skull fracture.
 - c. Right anterior fossa basilar skull fracture, with right periorbital ecchymosis.
 - d. Right frontal lobe brain contusion.
 - e. Subdural hematoma, large, base of brain and around brainstem.
 - f. Mild diffuse subarachnoid and intraventricular hemorrhage.
 - g. Cerebral edema.
 - h. Herniation of cerebellar tonsils and uncus gyri.
 - i. Secondary pulmonary edema.
 - j. Acute bronchopneumonia, patchy, lower lobes.
2. Multiple cutaneous abrasions (see diagrams).
3. Multiple superficial contusions.

CONCLUSIONS: It is our opinion that a 22 year old white male died as a result of a closed head injury sustained when his head struck a curb after he slid across the pavement following a motor vehicle accident, in which he lost control of his motorcycle. This resulted in a skull fracture, intracranial bleeding, brain contusion, swelling of the brain, and herniation of the cerebellum. As is common in these situations, there was reflex edema of the lungs, resulting in early acute bronchopneumonia. It is obvious that the subject struck the right side of his head against the curb. There were no other significant injuries, except for major cutaneous abrasions and some small contusions. His blood alcohol level at the time of admission to the emergency room was 0.178 g %, so that it is likely that significant intoxication contributed to or caused the accident. The nature of the injuries also indicates the likelihood that he would have survived with little harm, had he been wearing a helmet. There were no other significant findings.

att. 4
2-25-2

2-8

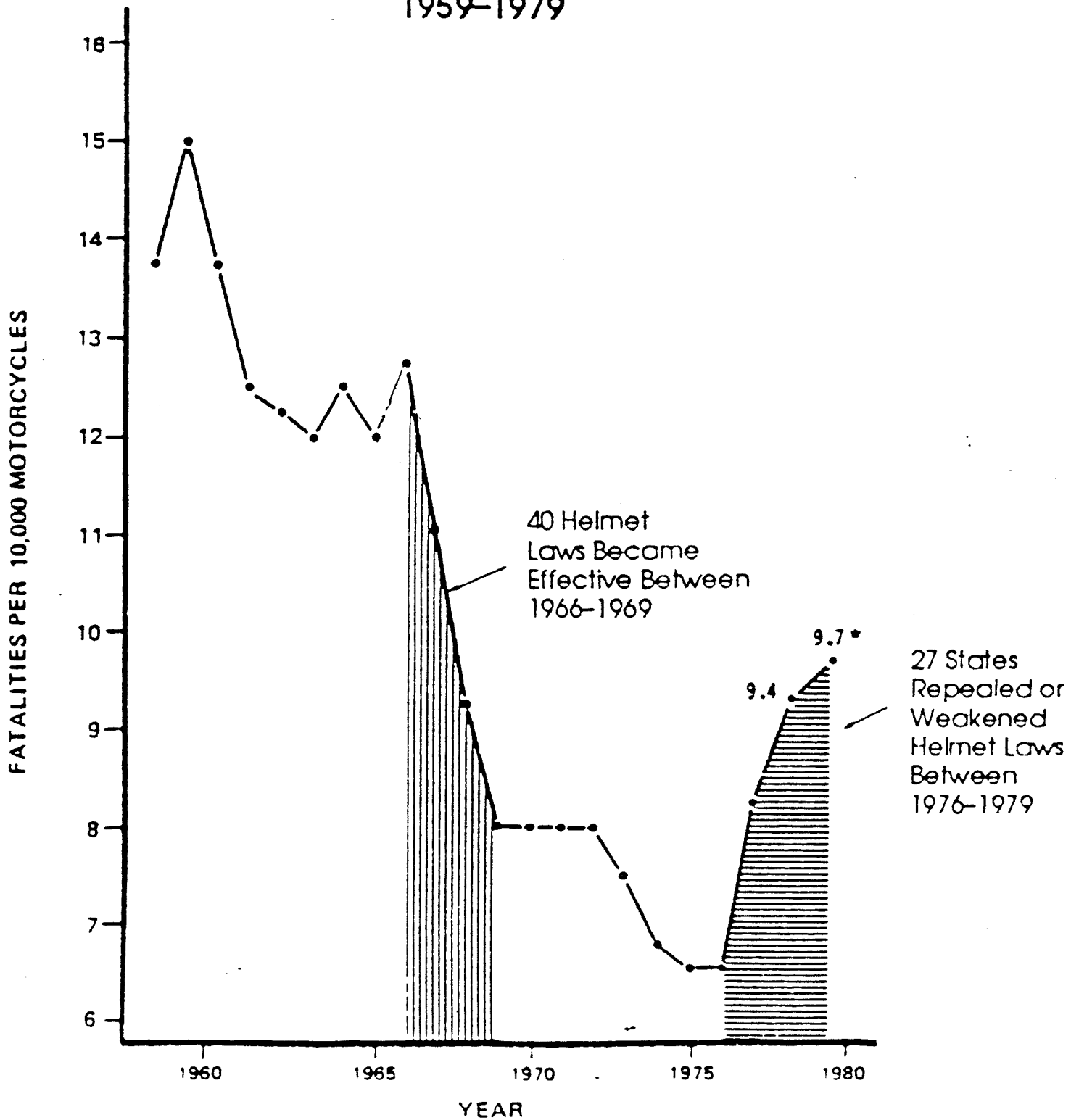
The Deputy District Coroner (R. Jensen, M.D.) was contacted at 1814 hours on regarding a death in the Intensive Care Unit at Stormont-Vail Regional Medical Center. The subject is a 37 year old Caucasian male who was involved in a motorcycle-motor vehicle accident on . 1988 at approximately 4 PM. The accident occurred in the . According to Patrolman Mark Finley of the Topeka Police Department, the motor vehicle involved in the accident was driving south in the right hand lane when it apparently turned in front of the subject's motorcycle which was traveling in the left lane of southbound traffic. The motorcycle apparently struck the left rear wheel well of the vehicle causing the motorcycle to fall and skid along the pavement. The subject was allegedly thrown from the motorcycle, landing on his head on the hard pavement. The subject was not wearing a helmet according to police. The subject was attended to immediately after the accident then transferred to the

Emergency Room at Stormont-Vail Regional Medical Center where he was found to be comatose due to a severe closed head injury. A large left posterior scalp laceration and a few bruises were apparent upon examination. At the time of admission, blood was identified draining from the subject's nose. After initial examination, he was felt to have a subdural hematoma and severe brain swelling. His condition remained unstable due to cardiac arrhythmias and severe cerebral edema. Electroencephalograms performed on . were isoelectric. After the second flat EEG, the subject was pronounced brain dead at . hours on . The subject subsequently underwent organ transplantation of the corneas, heart, pancreas, spleen, and kidneys.



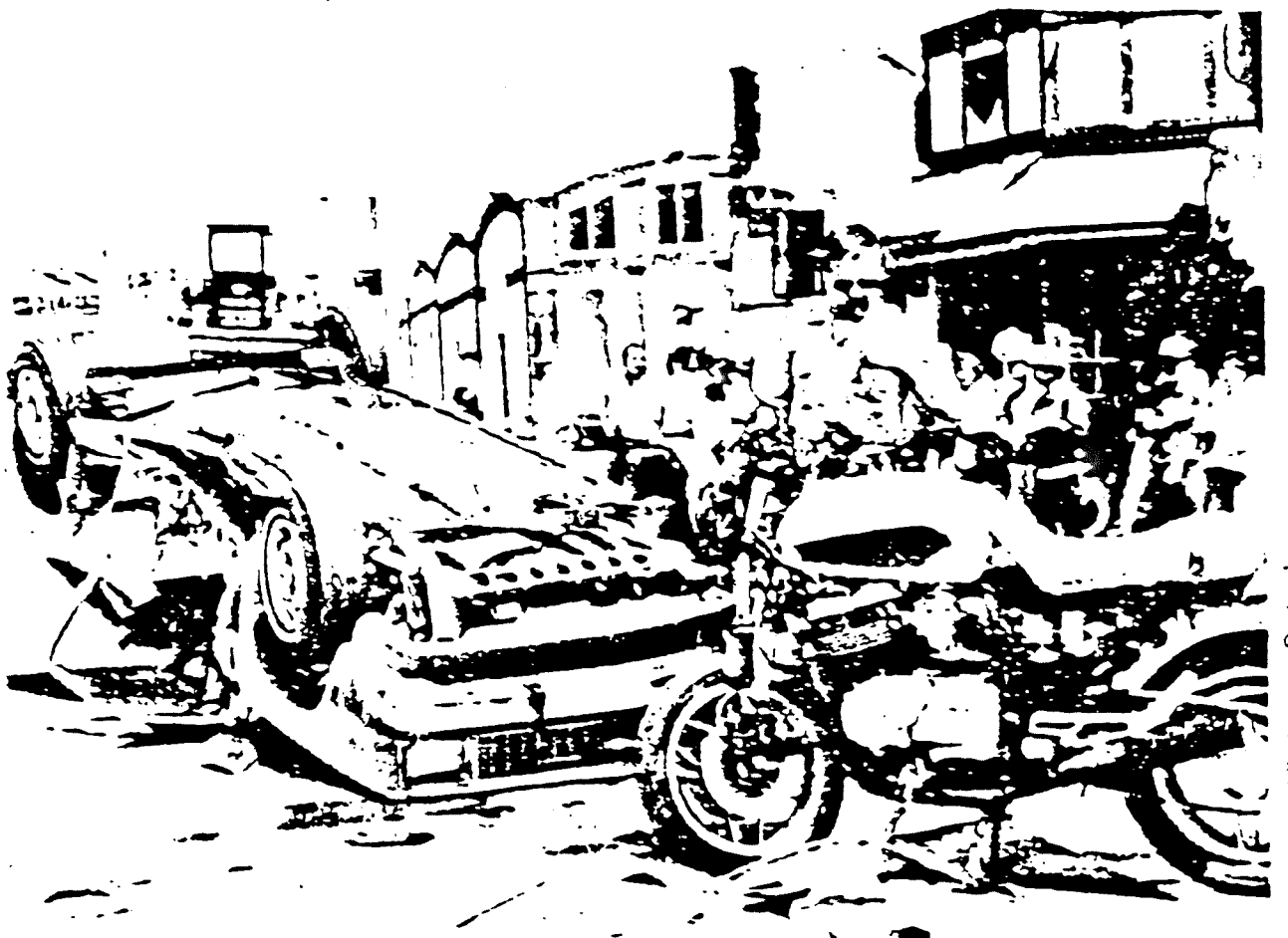
Robert D. Jensen, M.D.
Deputy District Coroner
Third Judicial District
Shawnee County Kansas
1500 W. 10th Street
Topeka, Kansas 66604-1353
(913) 233-3074

MOTORCYCLE FATALITIES PER 10,000 MOTORCYCLES 1959-1979



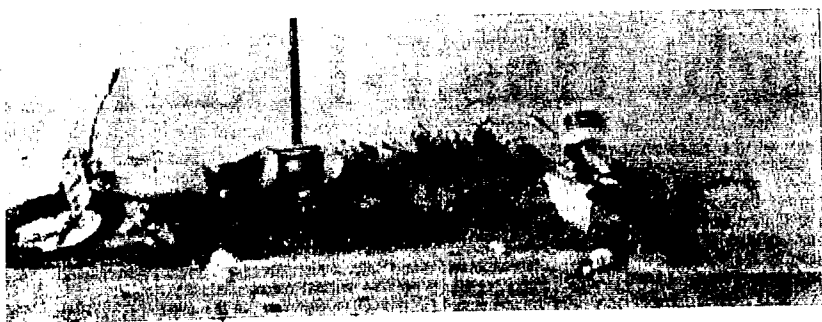
Source: NHTSA, April 1980.

Att 4
2-25-2



California Highway Patrol

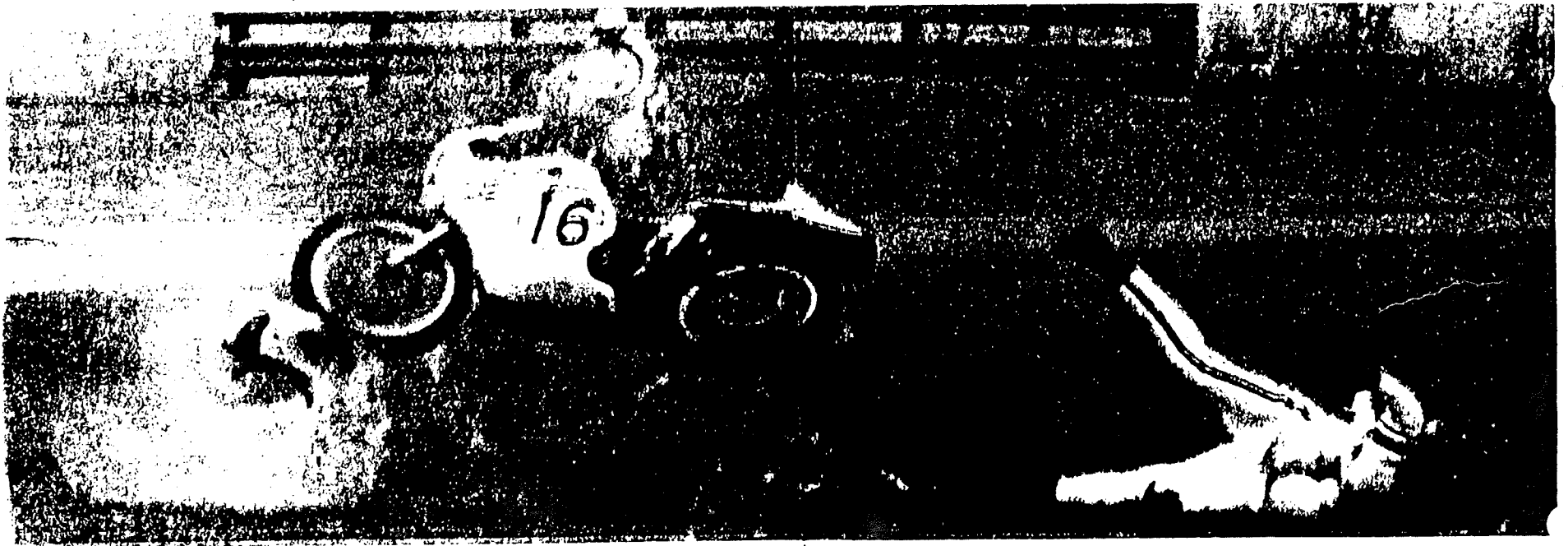
In 1983, a 21 year old male motorcyclist, traveling about 70-80 miles per hour, broadsided a car. The impact overturned the car and killed its driver instantly. The motorcyclist hit the edge of the roof at top of driver's door, then flew over the car and landed on the pavement. The motorcyclist was wearing a helmet. He suffered major injuries to the chest, shoulders, arms and face, but he survived and recovered partially at San Francisco General Hospital.



(News Photos by Jim Marr)

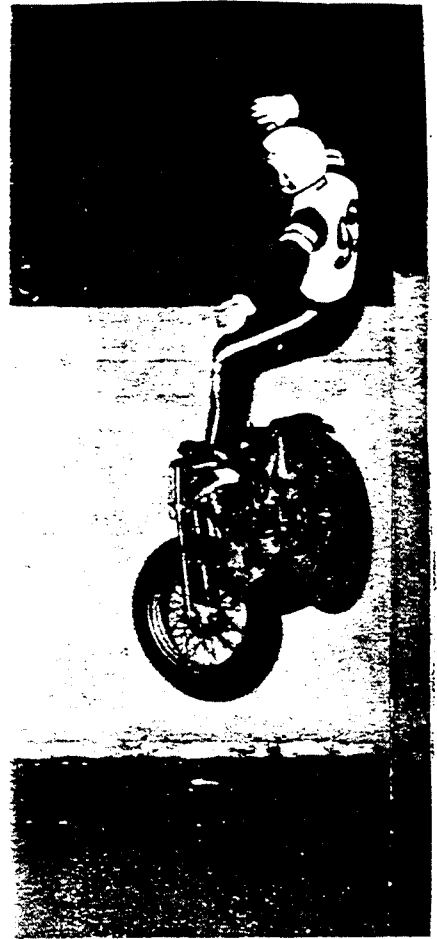
GING TO A HALT — THE HARD WAY. Charles Walker, Topeka, falls from his cycle as it hits the wall, and comes to a halt when he lands in up-right position during motorcycle races Sunday at the State Fair oval.

4-8
alt. 4
2-25-2



HOW TO LOSE A HARLEY — John Porter of Kensington, Md., takes a slide as his Harley-Davidson comes apart at the seams

during a spectacular spill during Friday's 100 mile race for amateurs at Daytona International Speedway. NJ Photo by John Gontner



UP, UP, AWAY
... Mark Brelsford flies through the air in a tussle with the wall at Memorial Stadium Friday night. He was only slightly injured

att. 4
2-25-2

5-8

FACTS, NOT MYTHS, ABOUT MOTORCYCLE HELMETS

FACT ONE: HELMETS DO NOT OBSTRUCT CRITICAL VISION.

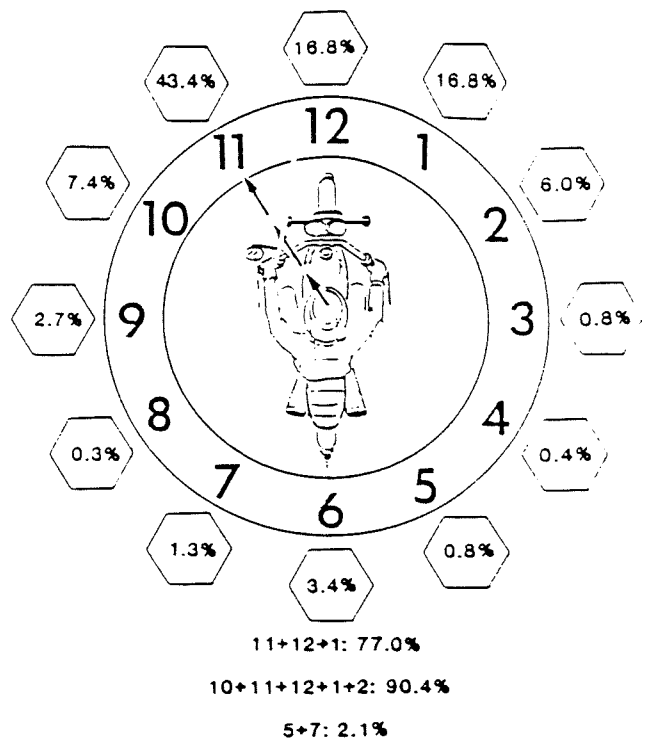
The figure at right shows where the crash hazards were located from the rider's point of view during the pre-crash phase in the 900 motorcycle crashes investigated by the USC Traffic Safety Center. For example, a car straight ahead would be at the 12 o'clock location. Seventy-seven per cent of the hazards 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).



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)

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:

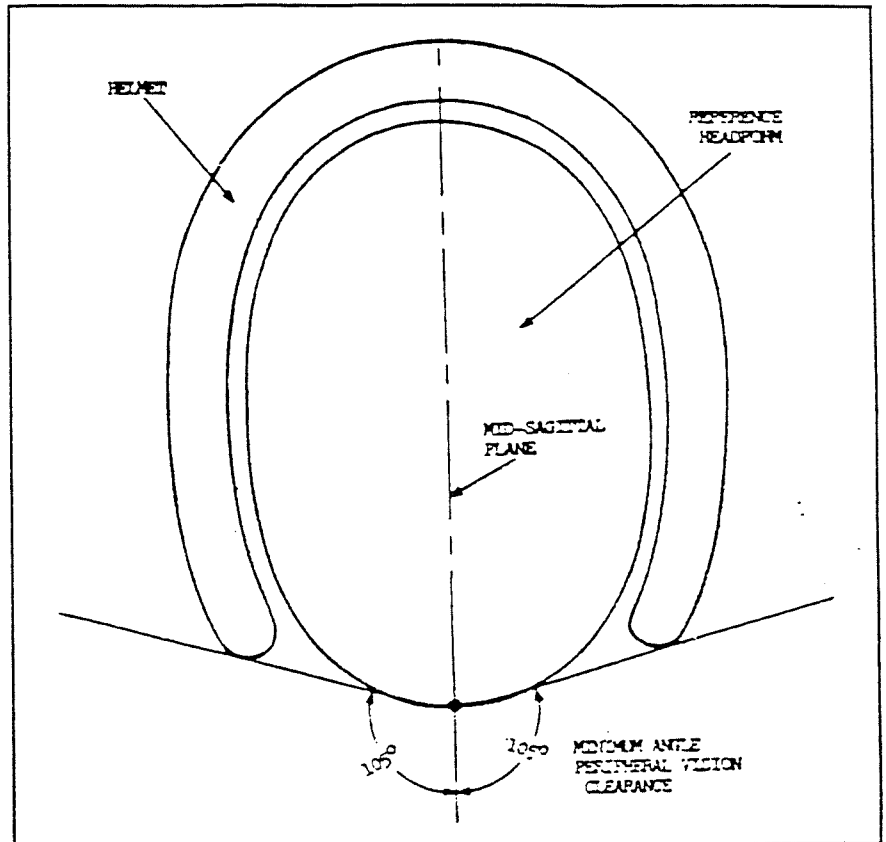
- "(a) Peak accelerations shall not exceed 400g;
- (b) Accelerations in excess of 200g shall not exceed a cumulative duration of 2.0 milliseconds; and
- (c) Accelerations in excess of 150g shall not exceed a cumulative duration of 4.0 milliseconds."

**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 manufac-

turer'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. ■

Motorcycles

Motorcycles typically have high performance capabilities, including especially rapid acceleration and high top speeds. In emergency braking, motorcycles are less stable than cars. They're less visible than cars, too. Motorcycles are thus more likely than cars to be in crashes. And, when cyclists do crash, they lack the protection of an enclosed vehicle. It isn't surprising, then, that motorcycles are especially dangerous. This edition of *Fatality Facts* addresses the problem.

- 3,036 motorcyclists died in crashes in 1989. This represents a 13 percent decline since 1988.
- The number of deaths in 1988 per 100,000 registered motorcycles was 76 compared to 18 for registered passenger cars. Per vehicle mile traveled, the number of deaths on motorcycles is about 19 times the number in cars.¹
- The problem of motorcyclist deaths largely affects young males — 55 percent of all deaths occur among 16-29-year-old males. The number of deaths per 100,000 people is 12 times as high for males (2.3) as for females (0.2).
- Forty-six percent of all motorcyclist deaths occur in single-vehicle crashes, 54 percent in multiple-vehicle crashes. About 1/3 of multiple-vehicle crashes involve cars turning left into the paths of oncoming motorcycles.²
- More than half of all crashes involving motorcycles and other vehicles involve drivers who say they either did not see the motorcycle at all or not until it was too late.²
- More than half (56 percent) of all motorcyclist deaths occur on weekends (Friday, Saturday, and Sunday). Fifty-seven percent occur between 6 pm and 3 am.
- Forty-two percent of all fatally injured motorcycle drivers either don't have a valid license to operate a cycle or it has been suspended or revoked.
- According to a 1985-86 California study of motorcycle drivers who were killed or severely injured, only 33 percent had valid motorcycle licenses. On borrowed cycles, only 20 percent were licensed.³
- More than half (57 percent) of all motorcycle drivers 16 years and older who are killed in single-vehicle crashes have very high blood alcohol concentrations (0.10 percent or more).

Motorcyclist Deaths as a Percent of All Motor Vehicle Deaths

	Total Motorcyclist Deaths	Percent
1980	4,961	10
1981	4,746	10
1982	4,270	10
1983	4,104	10
1984	4,431	10
1985	4,417	10
1986	4,309	9
1987	3,831	8
1988	3,486	7
1989	3,036	7

Motorcyclist Deaths, 1989

Age	Male	Female	Total
to 16	56	8	64
16-19	393	38	431
20-24	712	39	751
25-29	575	54	629
30-34	412	38	450
35-39	259	27	286
40-44	176	9	185
45-49	88	12	100
50-54	57	6	63
55-59	22	4	26
60-64	27	1	28
65+	17	2	19
Unk	2	2	4

Fatality Facts 1990

Published by the Insurance Institute for Highway Safety

More than half of all motorcycle drivers 16 years and older who are killed in single-vehicle crashes have very high BACs.

Distribution of Motorcyclist Deaths by Time of Day, 1989

	<u>Percent</u>
Midnight - 3 am	15
3am - 6 am	5
6 am - 9 am	5
9 am - Noon	5
Noon - 3 pm	11
3 pm - 6 pm	18
6 pm - 9 pm	22
9 pm - Midnight	21

Distribution of Motorcyclist Deaths by Day of Week, 1989

	<u>Percent</u>
Sunday	19
Monday	11
Tuesday	10
Wednesday	11
Thursday	13
Friday	15
Saturday	22

Distribution of Motorcyclist Deaths by Month, 1989

	<u>Percent</u>
January	3
February	3
March	6
April	7
May	12
June	12
July	14
August	14
September	10
October	10
November	5
December	3

- Motorcycles with large and powerful engines are much lighter than they used to be, so they have higher power:weight ratios and can accelerate faster. Many models can go from 0 to 60 mph in less than 2-1/2 seconds. This means the fastest cycles can reach 60 mph from a complete stop in about 100 feet. In comparison, a Porsche 911 Turbo, one of the fastest cars, takes 5 seconds to reach 60 mph from a standing start.
- The rates of fatal and severe injuries are twice as high among drivers of racing-design cycles as they are among drivers of street cycles (128 vs. 66 per 10,000 registered motorcycle years). This is based on analysis of nearly 2,000 motorcycle crashes resulting in severe injury or death in California in 1985.⁴
- Improved testing and licensing programs for motorcyclists in California have not reduced crash or violation rates. Nor have tougher licensing standards and increased education programs in New York State.⁵
- Virtually all states enacted helmet use laws between 1966 and 1973. Illinois repealed its law in 1970 and, by 1980, 28 more states had abandoned or substantially weakened theirs. A number of states later reenacted helmet laws (see page 3). As a result, helmet use rates are uneven — nearly 100 percent in states with helmet laws for all riders and about 50 percent in states without such laws or with weak helmet use laws applying only to young cyclists.^{6,7}
- The benefits of helmets are proven. Analyzing monthly counts of motorcycle deaths across the United States, researchers estimated that in the 28 states where use laws were repealed or weakened

Percent of Fatally Injured Motorcycle Drivers 16 Years and Older with BACs ≥ 0.10 Percent, by Type of Crash

	<u>Single Vehicle</u>	<u>Multiple Vehicle</u>
1980	58	31
1981	61	32
1982	62	29
1983	63	31
1984	64	25
1985	57	29
1986	57	29
1987	54	26
1988	54	27
1989	57	28

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The rates of fatal and severe injuries are twice as high among drivers of racing-design cycles as they are among drivers of street cycles.

Helmet Law Applies to All Riders

Alabama
Arkansas
District of Columbia
Florida
Georgia
Kentucky
Louisiana
Massachusetts
Michigan
Mississippi
Missouri
Nebraska
Nevada
New Jersey
New York
North Carolina
Oregon
Pennsylvania
Tennessee
Texas
Vermont
Virginia
Washington
West Virginia

Helmet Law Applies to Some Riders

Alaska
Arizona
California
Connecticut
Delaware
Hawaii
Idaho
Indiana
Kansas
Maine
Maryland
Minnesota
Montana
New Hampshire
New Mexico
North Dakota
Ohio
Oklahoma
South Carolina
South Dakota
Utah
Wisconsin
Wyoming

No Helmet Law

Colorado
Illinois
Iowa
Rhode Island*

*law applies to passengers only

between 1976 and 1980 more than 500 excess deaths (amounting to 1/4 of the total number of motorcycle deaths in these states) occurred in 1980.^{8,9,10}

- When helmet use laws are reinstated, the benefits return. Louisiana reenacted its law in 1981 (it was enacted in 1968, then repealed in 1976), and the use rate increased from about 50 percent to 96 percent. The death rate among cyclists declined immediately from 38 to 29 per 1,000 crashes.^{11,12} When Texas amended its helmet law in 1989 to apply to all motorcyclists (not just those younger than 18 years), helmet use immediately increased from less than 50 percent to more than 90 percent. A few months later, helmet use in Texas was more than 95 percent.⁶
- There's no evidence that weak helmet use laws (i.e., those that apply only to young riders) reduce deaths and injuries. In states that mandate helmet use for those 18 years or younger, 12 percent of motorcyclists killed in crashes are from that age group. The same percentage holds for this age group in states without helmet laws.⁷
- Do mandatory helmet laws violate the rights of individuals? In 1972, a federal court in Massachusetts told a cyclist who objected to the law, "The public has an interest in minimizing the resources directly involved. From the moment of injury, society picks the person up off the highway; delivers him to a municipal hospital and municipal doctors; provides him with unemployment compensation if, after recovery, he cannot replace his lost job; and, if the injury causes permanent disability, may assume responsibility for his and his family's subsistence. We do not understand a state of mind that permits plaintiff to think that only he himself is concerned." This decision was affirmed by the U.S. Supreme Court.¹³
- Public funds paid for 63 percent of the \$26,276 average per-patient cost of caring for injured motorcyclists at Harborview Medical Center in Seattle, Washington during 1985.¹⁴

THE INFORMATION IN THIS FACT SHEET IS BASED LARGELY ON ANALYSIS OF DATA FROM THE U.S. DEPARTMENT OF TRANSPORTATION'S FATAL ACCIDENT REPORTING SYSTEM. FOR FURTHER INFORMATION, SEE THE FOLLOWING REPORTS:

¹Federal Highway Administration. 1988. Highway statistics 1988. Washington, DC: Federal Highway Administration.

²Hurt, H.H. Jr. 1981. Motorcycle accident cause factors and identification of countermeasures. Washington, DC: U.S. Department of Transportation DOT-HS-805-862-3.

There's no evidence
that weak helmet
use laws reduce
deaths and injuries.

³Kraus, J.F.; Zador, P.L.; Anderson, C.; Williams, A.F.; Arzemenian, S.; Li, W.; and Salatka, M. 1989. Motorcycle licensure, ownership, and crash involvement. Arlington, VA: Insurance Institute for Highway Safety.

⁴Kraus, J.F.; Zador, P.; Arzemenian, S.; Anderson, C.L.; and Harrington, S. 1987. Motorcycle design and crash injuries in California, 1985. Bulletin of the New York Academy of Medicine 64:788-803.

⁵Insurance Institute for Highway Safety. 1988. Two studies question value of motorcycle licensing program. Status Report 23:8.

⁶Lund, A.K.; Williams, A.F.; and Womack, K.N. 1989. Motorcycle helmet use in Texas. Arlington, VA: Insurance Institute for Highway Safety.

⁷Williams, A.F.; Ginsburg, M.J.; and Burchman, P.F. 1979. Motorcycle helmet use in relation to legal requirements. Accident Analysis and Prevention 11:271-73.

⁸Hartunian, N.S.; Smart, C.N.; Willemain, T.R.; and Zador, P.L. 1983. The economics of safety deregulation: lives and dollars lost due to repeal of motorcycle helmet laws. Journal of Health Politics, Policy and Law 8:76-98.

⁹Watson, G.S.; Zador, P.L.; and Wilks, A. 1980. The repeal of helmet use laws and increased motorcyclist mortality in the USA: 1975-1978. American Journal of Public Health 70:579-85.

¹⁰Watson, G.S.; Zador, P.L.; and Wilks, A. 1981. Helmet use, helmet use laws, and motorcyclist fatalities. American Journal of Public Health 71:297-300.

¹¹McSwain, N.E.; Willey, A.; and Janke, T.H. 1985. The impact of re-enactment of the motorcycle helmet law in Louisiana. Twenty-ninth Proceedings of the American Association for Automotive Medicine. Arlington Heights, IL: American Association for Automotive Medicine.

¹²National Highway Traffic Safety Administration. 1984. Impact of the re-enactment of the motorcycle helmet law in Louisiana. Washington, DC: U.S. Department of Transportation DOT-HS-806-760.

¹³Simon v. Sargent, 346 F. Supp. 277, 279 (D. Mass. 1972), affirmed 409 U.S. 1020 (1972).

¹⁴Rivara, F.P.; Dicker, B.G.; Bergman, A.B.; Dacey, R.; and Herman, C. 1988. The public cost of motorcycle trauma. Journal of the American Medical Association 260:221-23.

Deaths per 100,000 Registered Vehicles		
	Motor-cycles	Passenger Cars
1979	90	23
1980	90	23
1981	84	22
1982	77	19
1983	76	18
1984	84	18
1985	84	18
1986	82	18
1987	79	18
1988	76	18

INSURANCE
INSTITUTE
FOR
HIGHWAY
SAFETY

July 1990, Editor Anne Fleming

Insurance Institute for Highway Safety
1005 North Glebe Road, Arlington, VA 22201
(703) 247-1500

The Insurance Institute for Highway Safety is an independent, nonprofit public service organization that develops and evaluates ways to reduce motor vehicle losses. The Institute's work is wholly supported by the nation's property and casualty insurers, individually and through their trade associations.

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As an avid motorcyclist for 15 years, I am well aware of the arguments for and against helmet laws. Responsible research and common sense make clear the reality that helmets save lives and reduce the impact of injuries sustained when a motorcycle crashes.

I think it needs to be made abundantly clear that injuries, helmetless or not, impact not only the operator, but society, family, and friends. Some of these injuries can be life changing and require long and arduous therapy and recovery, taking an untold toll on not only the injured, but those around him or her. Helmets reduce the severity of these injuries, reducing costs to all involved.

The issue of personal freedom needs to be addressed and kept in perspective. A democracy has a right, and a responsibility, to make laws to protect itself and its members. This includes the duty to protect us from behavior that is, at first glance, primarily self-threatening. The responsibility of ensuring that such laws do not threaten real personal freedom is that of each citizen, and by extension, our elected representatives.

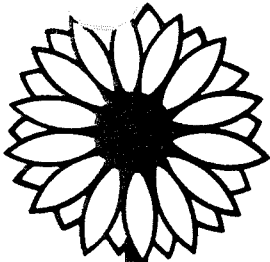
As to my personal experience, I feel I can testify as to the usefulness of helmets. On May 8, 1991, I went out of control of my motorcycle at highway speed, striking an 18-wheeler and a concrete guardrail. I am here today and recovering from multiple injuries, only because I was wearing a helmet.

In closing, I would like to again express my support for mandatory helmet use. I also thank the committee for hearing all sides of this issue, and for the chance to address you.

Also I am more than happy to answer any questions you may have.

Att. 5
T&U
2/25-92

NOEL P. PULL
1310 E. 21ST TERRACE
LAWRENCE, KS. 66046
(913) 865-5286



Kansans for Highway Safety

FEBRUARY 25, 1992

TESTIMONY BEFORE THE SENATE TRANSPORTATION AND UTILITIES COMMITTEE
IN SUPPORT OF SENATE BILL NO. 644
MANDATORY HELMET USE BY MOTORCYCLISTS

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. The California legislature was told of a 22 year old unhelmeted cyclist lost control of his cycle. 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

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T&U

insurance companies 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° 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° 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.*

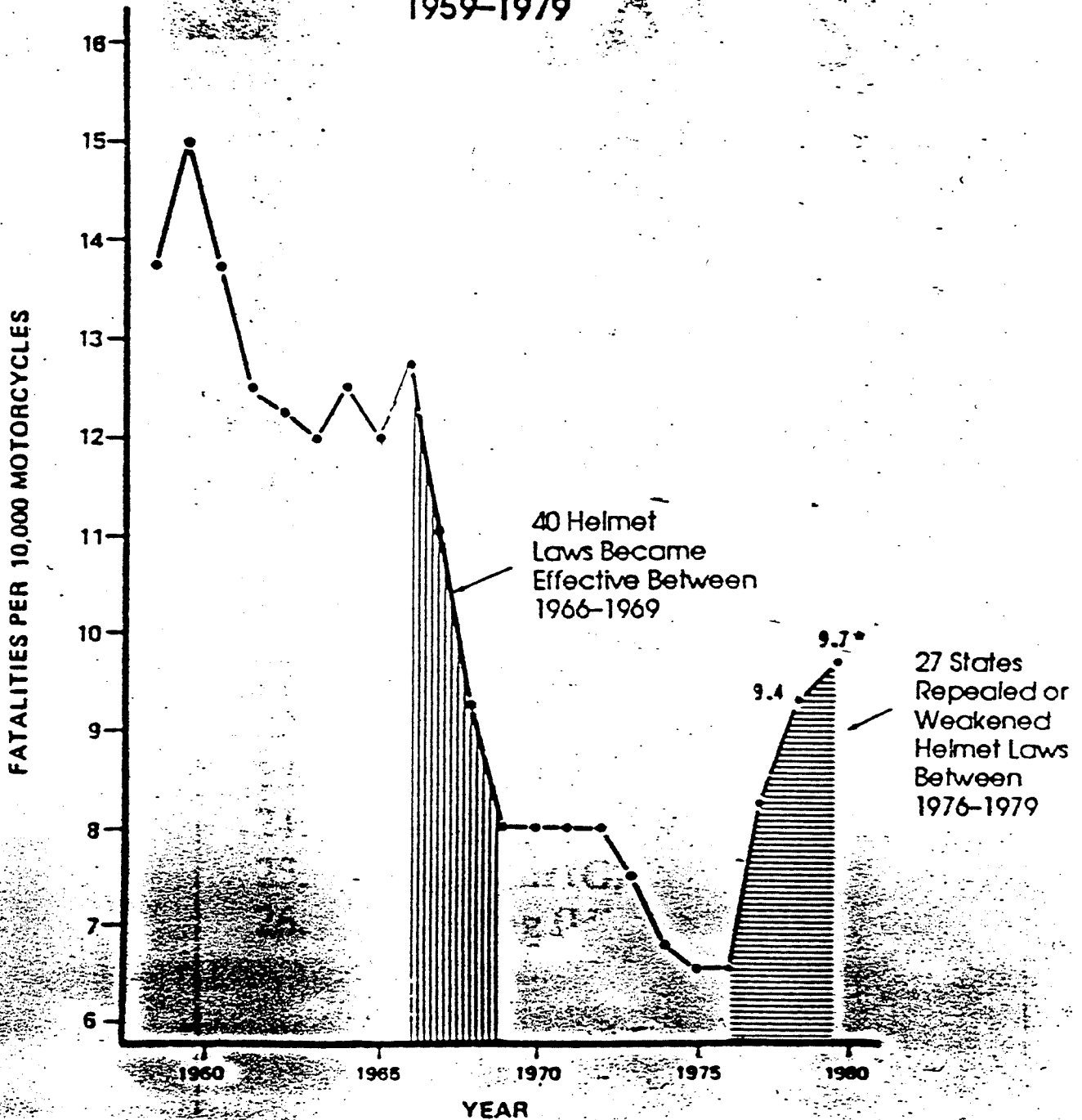
Do helmets cause neck injuries? Modern helmets are lighter than they used to be and are designed so that the back of the helmet will not strike the neck.

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. With careful analysis it will be clear that this law is good for the majority of Kansans while imposing restrictions on relatively few. 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

MOTORCYCLE FATALITIES PER 10,000 MOTORCYCLES 1959-1979



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.

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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).

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.)

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.

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4-6

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).

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

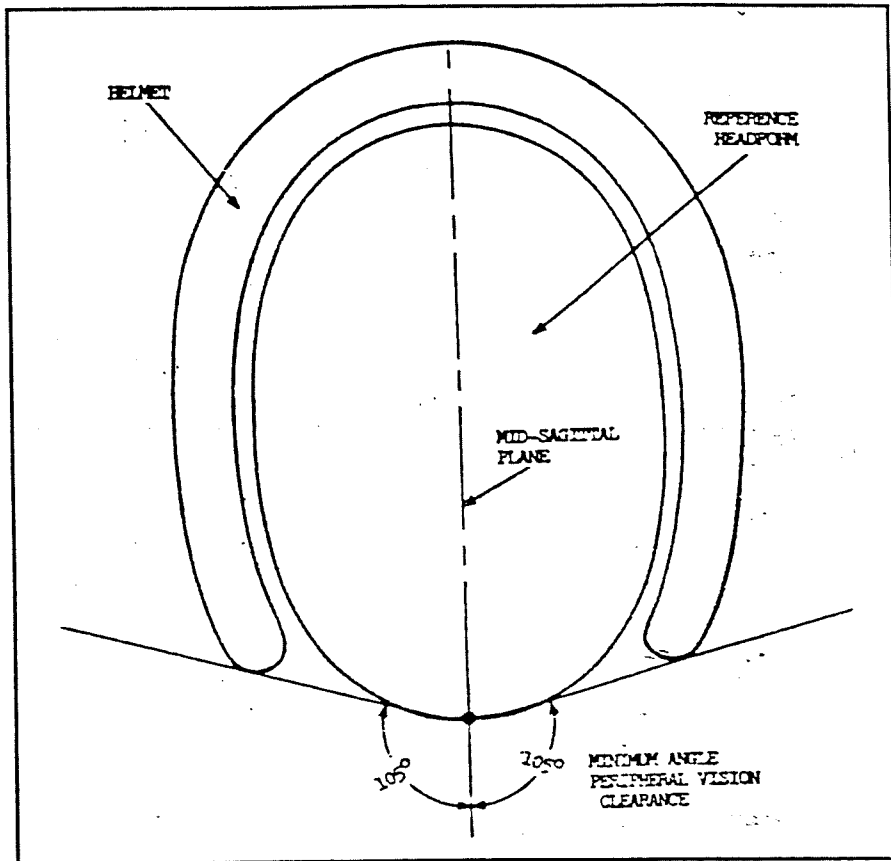
(c) Accelerations in excess of 150g shall not exceed a cumulative duration of 4.0 milliseconds."

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 manufac-

turer'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.

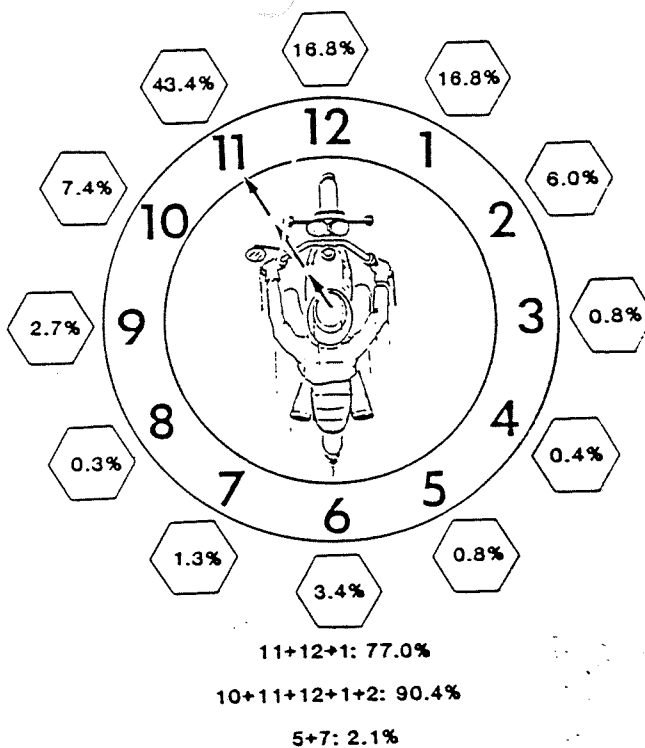
The figure at right shows where the crash hazards were located from the rider's point of view during the pre-crash phase in the 900 motorcycle crashes investigated by the USC Traffic Safety Center. For example, a car straight ahead would be at the 12 o'clock location. Seventy-seven per cent of the hazards 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).



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)

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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. ■

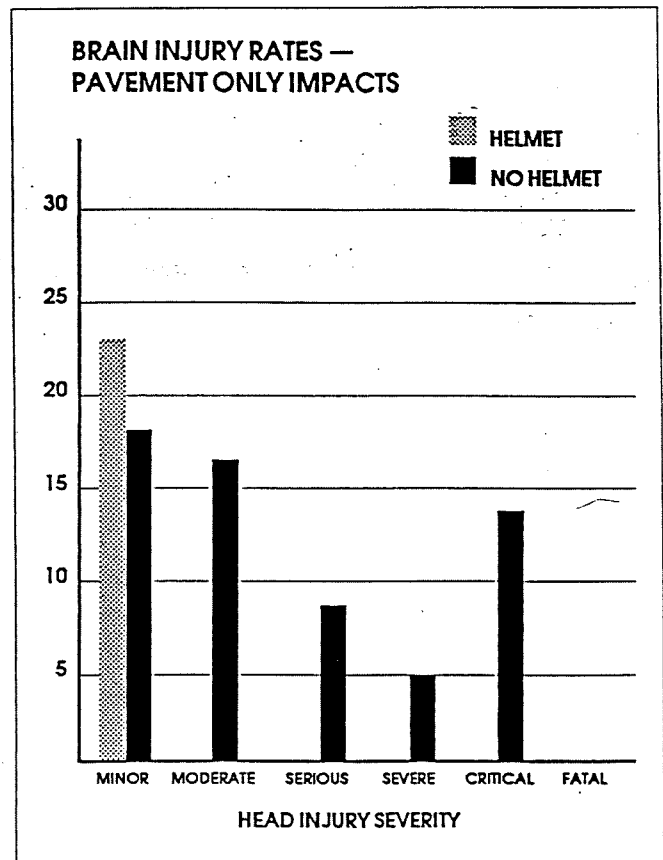
PAVEMENT-ONLY STRIKES IN MOTORCYCLE CRASHES

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 increased after helmet law repeal."

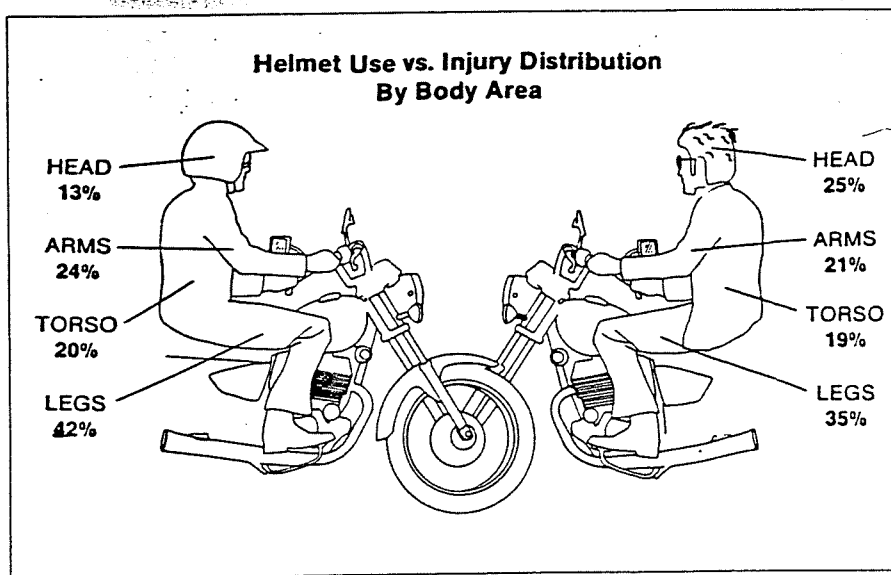
—NHTSA, 1981.

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



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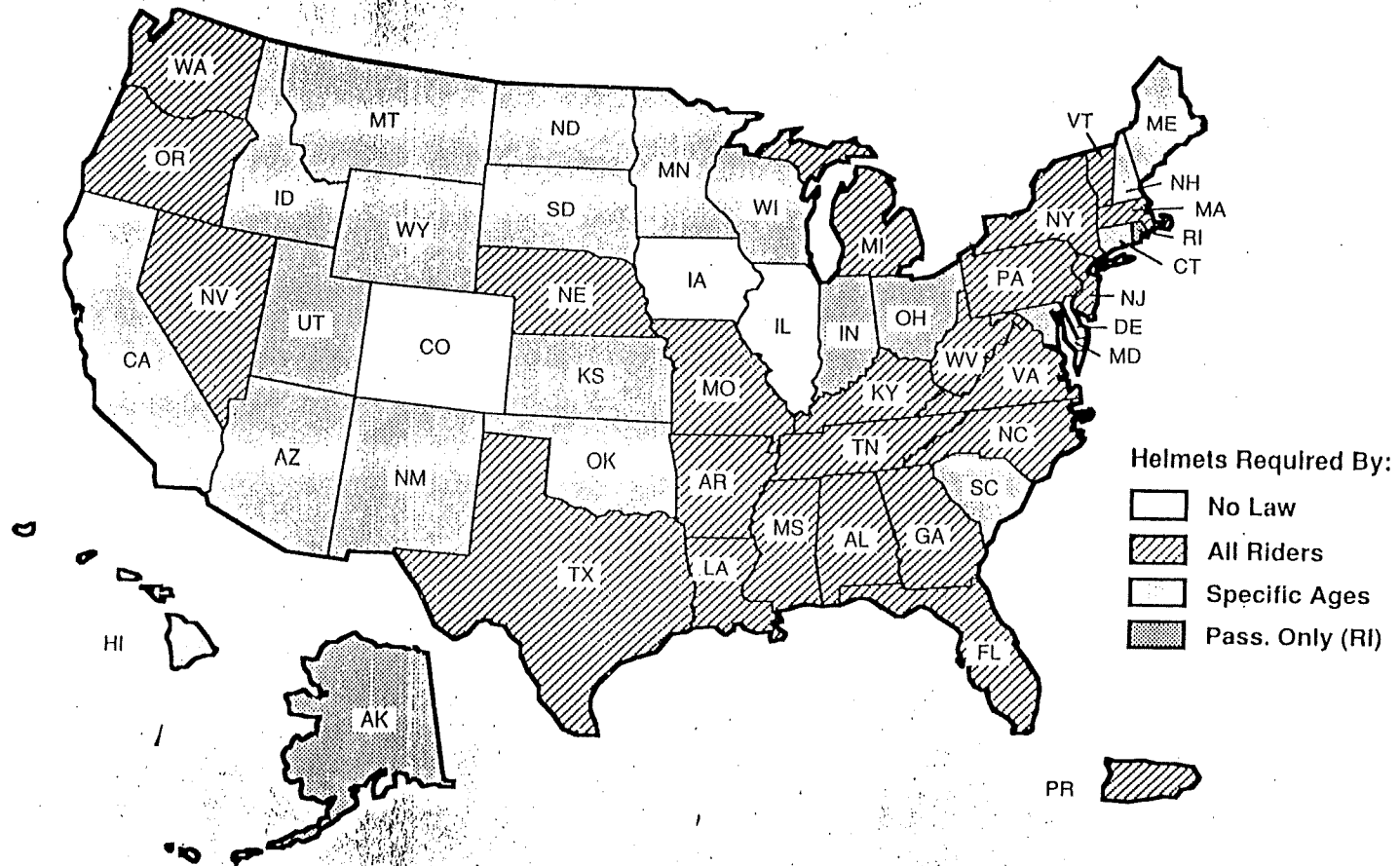
The distribution of injury by body part involved is dependent upon helmet use at the time of crash. For those without helmets, 25% of the injuries are head injuries. For those with helmets, only 13% sustain head injuries (NHTSA, September 1980).

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10-6

MOTORCYCLE HELMET USE LAWS

As of September 1, 1990



Kansas Chapter of the
American College of Emergency Physicians

1300 Topeka Avenue • Topeka, Kansas 66612 • 913) 235-2383
Kansas WATS 800-332-0156 FAX 913-235-5114

February 25, 1992

TO: Senate Transportation and Utilities Committee
FROM: Kansas Chapter, American College of Emergency Physicians
SUBJECT: Senate Bill 644; Motorcyclist Injury Reduction



Thank you for the opportunity to express support for the provisions of Senate Bill 644. Emergency physicians are particularly aware of the severity of injuries sustained by operators and passengers of motorcycles. Oftentimes, emergency 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 all 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. We urge you to recommend passage of SB 644.

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2-25-92



Department of Health and Environment

Azzie Young, Ph.D., *Secretary*

Reply to:

Testimony presented to

Senate Transportation and Utilities Committee

by

The Kansas Department of Health and Environment

Senate Bill 644

SB 644 proposes to expand KSA 8-1598 to require that people of all ages must wear a helmet when operating or riding upon a motorcycle or a motorized bicycle. Kansas law currently requires only motorcyclists under the age of 18 to wear 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 use 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% percent of statewide vehicle crashes in Kansas, but those crashes accounted for more than 12% percent 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 403 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.

Head injury is the leading cause of death in motorcycle crashes. An unhelmeted motorcyclist is 40% more likely to incur a fatal head injury and 15% more likely to incur a less severe head injury than a helmeted motorcyclist.

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2-25-92

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 percent 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. A study conducted at the University of Southern California concluded that helmet use laws were the single most important factor governing survival in motorcycle crashes. 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: \$2,071.00 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 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.

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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.

Testimony presented by: Paula Marmet
Director
Office of Chronic Disease and Health Promotion
February 25, 1992

att. 8
2-25-92
3-3



St. Joseph Medical Center

3600 East Harry/Wichita. Kansas 67218 (316) 685-1111

S.B. 644

Chairperson Morris, and members of the Transportation and Utilities Committee my name is Gloria Solis. I am a registered nurse in the state of Kansas and the Trauma Nurse Coordinator at St. Joseph Medical Center in Wichita. Thank you for the opportunity to speak.

Since 1988, the Trauma Center at St. Joseph cared for 160 motorcyclists involved in unintentional motor crashes. The Trauma Team is mobilized only in the most critical crashes, so this number does not include patients that are treated and released from the emergency room. For the victims admitted to the trauma team, only 25 or 16% were wearing a helmet.

Injuries suffered are major in nature. Fractures are repaired, internal chest and abdominal injuries are handled quickly and in the best known manner. The brain, however, does not recover like the rest of our body. Once injured, the brain remains in jeopardy of further insult from lack of oxygen, blood pressure regulation and elevation of pressure within the skull. This compounding cycle worsens the initial event and causes secondary injury to viable brain tissue. Many head-injured patients who would otherwise recover with only mild neurological deficits are left with major

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disability. Recovery then, often becomes a lifelong process beset with physical, mental, emotional and social obstacles.

Last Saturday, a 26 year old male was enjoying a beautiful day riding his motorcycle in Wichita. This young gentleman was obeying the speed limit, driving carefully, yet was broadsided by a car that ran a stop sign. Because he became unconscious at the scene with a large scalp laceration, the trauma team was mobilized. This individual did not suffer any other injuries but he remains in Intensive Care due to the concussion suffered. In this case, a helmet would have provided him the protection needed and perhaps prevented his admission to the trauma center.

I urge this committee to present a uniform helmet law to the public. Helmets do protect the brain and make a difference in the significance of head injury. Thank you for the opportunity to present this testimony.

Testimony: 2/25/92

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KANSAS

CHAIRMAN
JAMES O. FOSTER
BOEING MILITARY AIRPLANE CO.
WICHITA 67277

Highway Users Conference

1005 Merchants Tower
Topeka, Kansas 66612
(913) 234-0589

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KANSAS MOTOR CARRIERS
ASSOCIATION
TOPEKA

February 20, 1992

Senator Bill Morris, Chairman
Kansas Senate Transportation & Utilities Committee
Room 143-N, Statehouse
Topeka, Kansas 66612

Dear Senator Morris:

The Kansas Highway Users Conference is in support of Senate Bill No. 644 concerning the requirement that all persons in Kansas operating or riding upon a motorcycle or a motorized bicycle shall wear a helmet. We urge your committee to support this legislation and request that this letter be read into the record of your committee's public hearing on this issue next week.

The newly enacted Intermodal Surface Transportation Efficiency Act of 1991 provides that states that do not have a motorcycle helmet law in effect by FY94 will have 1.5 percent (3 percent after FY94) of the state's National Highway System, congestion management and Surface Transportation Program funds transferred from road construction programs.

We urge you to support SB 644.

Sincerely,


James O. Foster, Chairman

cc: Members of Senate Transportation
& Utilities Committee
Executive Committee, KHUC

Att. 10
T&U
2-25-92

The Kansas Rehabilitation Hospital

I am before you to testify in favor of a motorcycle helmet law in Kansas. I am a clinical social worker with fifteen years of experience as a family counselor. The past five years of my professional life have been spent working with head injury survivors and their families in rehabilitation settings.

I have attached a list containing statistics related to head injury in the United States. On the average, there are 700,000 head injuries each year (in Kansas-Missouri alone there are 30,000 injuries). Of this national total 70 - 90,000 result in coma or extreme debilitation and loss of body function. Each severe head injury survivor requires between \$4.1 and \$9 million in care over a lifetime. The typical survivor is injured when they are between the ages of 15 and 35.

These statistics suggest that it is not only the survivor of a head injury who is traumatized, but their families as well. For that reason, I would like to focus the remainder of my comments on the impact head injury has on families.

Head injuries are sudden events for which families are ill prepared. It is truly the entire family system that is affected in a way that is distinctly different from other losses. When a person dies as a result of an injury or illness, the family experiences a process of grieving. They redefine roles and expectations and eventually reach a resolution that permits them to establish new relationships and continue with their lives.

Families who experience head injury must meet and cope with a different set of challenges. They have undergone a loss but their is no final resolution. Survivors of severe head injuries will invariably have significant impairment in physical abilities, cognitive-communication skills, and emotional and social behavior. Families frequently report that they must learn to get to know a new person because the survivor's personality is significantly altered. While they struggle with the loss of the person they once knew, they must also deal with taking on responsibility for the care of the person who now has a new role in the family.

Janet Williams, a long time advocate for head injury survivors and their families has recently edited a book entitled "Head Injury: A Family Matter". In a chapter authored by Ms. Williams, she lists the following factors that create the greatest stress for families:

1. Cognitive and social problems - these factors are usually more stressful than adjustment to the survivor's physical impairment.

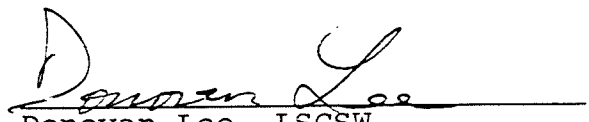
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2. Lack of information - families typically do not receive adequate information on the long term needs of the survivor and the impact on the family.
3. Lack of service - many areas do not have the wide range of services essential for positive adjustment by individual or family.
4. Uncertainty of the future - who will take care of the survivor when parents become too old to continue.
5. Finances - costs range from inpatient care to respite care as well as loss of income and interference with career advancement for survivor and spouse.
6. Role changes - it is unlikely that someone with a severe head injury will be able to function in pre-injury roles of spouse, student, wage earner, and sexual partner.
7. Social isolation - early on friends and relatives will be actively involved and supportive. However, over time contact decreases and isolation begins to set in.
8. Prolonged caretaking - since head injury survivors have an average life expectancy, caregivers are faced with 20-30 years of responsibility.

There is no cure for head injury, but there is prevention. A helmet law would prevent some individuals and families from experiencing the devastation and despair created by head injury. A helmet law has its place in a constellation of preventative measures including educational programs in our schools and the existing seat belt law. Such a law is worthy of your most serious consideration.

2-25-92
Date


Donovan Lee, LSCSW
Coordinator Neurobehavioral
Rehabilitation Unit
Kansas Rehabilitation Hospital

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HEAD INJURY IN THE UNITED STATES

- * There are approximately 700,000 head injuries in the United States every year.
- * Half of these (350,000) head injuries stem from automobile crashes.
- * One out of 80 children born this year will die of a vehicular-induced head injury, probably before reaching 25 years of age.
- * Head injuries are responsible for up to 60 percent of auto trauma deaths.
- * The most frequent reason for visits to physicians for emergency care is head injury.
- * Each year, more than 140,000 Americans die as a result of head injuries.
- * There are between 70,000 and 90,000 head injuries in the United States each year that result in coma or extremely debilitation loss of body function.
- * Head injury accounts for 500,000 hospital visits every year.
- * There are 2,000 cases of persistent vegetative state in the United States every year caused by head injury.
- * Head injuries require 3.5 million days of hospitalization and cost more than 35,000 man years of working ability each year.
- * Each severe head injury survivor requires between \$4.1 and \$9 million in care over a lifetime.
- * Those survivors who have sustained severe head injuries in any one year alone will require a total of up to \$630 billion in lifetime care.
- * The typical survivor of serious head injury requires between five and 10 years of intensive rehabilitation.
- * Head injury kills more Americans under the age of 34 than all other causes combined.

Compiled by National Head Injury Foundation

MOTORCYCLE FATALITIES IN KANSAS

YEAR	TOTAL FATALITIES	WITH HELMETS	WITHOUT HELMETS
1991	49	7	42
1990	36	7	29
1989	27	7	20
1988	43	4	39
1987	42	8	34
1986	38	8	30
1985	25	10	25
1984	47	13	34

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**TESTIMONY PRESENTED TO
KANSAS
SENATE TRANSPORTATION COMMITTEE
SB 644
25 FEB. 1992**



**TESTIMONY PREPARED BY
GREG HARDY
PRESENTED BY
KENNETH R. McNEILL**

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GOVERNMENT



Jerry Curry

Curry praises motorcyclists

The outgoing head of the National Highway Traffic Safety Administration (NHTSA) has commended motorcyclists for their important role in helping to reduce the nation's highway fatality rate.

Jerry Curry, who has served as the chief administrator for the NHTSA since 1989, will take over as director of the Federal Aviation Administration (FAA) this year. And in a final meeting with safety analysts that included AMA Washington Representative Jim Bensberg, Curry singled out motorcyclists as a positive force in reducing fatalities.

Curry noted that the ongoing reduction in motorcyclist fatalities, which plunged nearly 40 percent during the 1980s, played an important role in helping reduce the nation's traffic fatality toll in 1991 to a projected 41,350 deaths, or 1.9 fatalities per 100 million vehicle miles traveled.

"This marks the lowest number of lives lost in one year since 1962," Curry noted. "Motorcyclists have done a good job of helping reduce fatalities."

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BRIEF HELMET RELATED FACTS

In the 10 year, 1978 to 1988, motorcycle fatalities per 10,000 motorcycles registered declined 15%. Based on vehicle miles traveled, the rate declined an astonishing 37% from 1980 through 1986. Motorcycling, while having had a disproportionate fatality rate compared to other road users, now has a rate declining more rapidly than any other group. [Motorcycle Safety Foundation (MSF), 1990) Of the top 12 states with the best motorcycle safety records (fatalities per 10,000 registration), only one has a helmet law. On the other hand, fully half of the dozen states with the worst safety records are helmet law states. [MSF and Motorcycle Industry Council (MIC) data, 1986] Relative to the number of registered motorcycles states with mandatory helmet laws had 13.2% more accidents and 1.9% more fatalities than free choice states for the 13) year period of 1977-89. "There is no significant difference in the fatality rates of states requiring or not requiring the wearing of a motorcycle helmet." [Accident and Fatality Statistics analyzed by Dr. A. R. MacKenzie, M.D.] (See appendix 6)

According to Bell Helmets Dealers Guide (1986)... "an incorrectly fitted helmet can do more damage than no helmet at all....and people will usually buy a helmet that fits too loose as it is more comfortable. "When applying the law of inertia, the weight of an object becomes awesome. A 4-pound helmet at 50 mph becomes 200 pounds upon impact. (Newton's Law of Motion)72% of U.S. Motorcyclists already wear a helmet, either by choice or by existing state laws, while automobile drivers use seat belts only 47% of the time. Even with seat belt laws in effect in 36 states, covering 80% of the population, more than half of all automobile fatalities involve head injury. (Usage data 6) (compiled by the University of North Carolina)

In my view, Mr. President, these compulsory helmet laws, which are forced upon the several states, are a violation of our constitutional liberties...The wide spread opposition to these laws is further indicated by the fact that there were 43 separate court challenges to state and municipal headgear legislation by January 1, 1970. In 31 instances, such legislation was upheld; but in 12 it was declared unconstitutional) by one State supreme court) Illinois; by three appellate courts Idaho, Arizona, Michigan; and eight trial courts Colorado, and Michigan. In addition, the attorney general of Oklahoma has issued an opinion that the state's compulsory headgear law is unconstitutional, and the attorney general of New Mexico has determined that a proposed city ordinance would be invalid if applied to citizens over 18 years of age." (From The Congressional Record, Sept 4, 1975. Statement of Senator Jesse Helms of North Carolina)

"The automobile driver is at fault in more than 70% of all car/motorcycle conflicts." (Second International Congress on Automobile Safety) 45.5% of the motorcyclists involved in accidents had no motorcycle license; 92% had no formal training and more than half had less than six months experience. 62% of the accidents and 50% of the fatalities involved riders between the ages of 17) 26. (Hurt Report, Traffic Safety Center of University of Southern California)...when forced to do so, riders would buy the cheapest headgear available, all the while resenting the imposition. With helmet use voluntary, many riders' attitudes would begin to change, and they would take pride and care in helmet ownership." (Motorcycle Product News)

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TESTIMONY ABATE OF KANSAS

Mr. Chairman, and members of the committee. Thank you for this opportunity to testify in opposition to SB 644. This is the twenty sixth year of discussion on this issue. Kansas passed the original full use helmet law effective 7-1-67 under the threat of federal blackmail. The law was repealed effective 7-1-70 for age 21 and over, it was reinstated for all, effective 7-1-72. Repealed for ages 16 and over 7-1-76, reinstated for ages under 18, 7-1-79. In 1981, 1985 and again in 1991 bills were introduced to revise the existing law to include Mandatory Helmet use for all motorcyclists and here we are again because of a letter from Drs. Goodpasture and Fleming from HCA Wesley Medical Center dated Jan. 22, 1992 along with an attached article from the Journal of Trauma with statistics specific to Kansas since the repeal of the mandatory helmet law in 1976.

The title of this article is Motorcycle Helmets - Medical costs and the Law by Norman E. McSwain, Jr., M. D. and Anita Belles, M. S.. This is a study pertaining mainly to the state of Louisiana, it also has some purported statistics from 5 countries and 10 states, of which Kansas is one. The first "detail" they wanted to emphasize was fatal accidents increased 63% since 1976. According to the report of Oct 25, 1990, Office of Traffic Safety, Kansas Department of Transportation, Motorcycle fatalities and injuries by Helmet Use (Attachment 1) the facts are as follows. In 1976 Kansas had 45 motorcycle fatalities, of which 22 were wearing a helmet, 13 were not wearing a helmet and there were 10 whose helmet use was unknown. In 1989 Kansas had a total of 27 motorcycle fatalities, of which 7 were wearing a helmet, 6 were not wearing a helmet and there were 14 whose helmet use was unknown. As you can plainly see fatalities DECREASED from 45 to 27, hardly an increase of 63% and in both years, those not wearing a helmet represented a lower number.

Since Kansas 1976 repeal was effective 7-1-76 we have a unique opportunity to look at one year with six months of full mandatory helmet use and 6 months of mandatory helmet use for those under 16 years old. Motorcycle fatalities 1976 (Attachment 2). Of the 21 head injury fatalities, 9 (40.86%) were wearing a helmet, 7 (33.3%) were not wearing a helmet and 5 (23.81%) helmet use is not known. There were no neck injury fatalities for those not wearing a helmet, only 1 where helmet use was unknown, and 6 (85.71%) of the neck injury fatalities who were wearing a helmet. There were 28 head/neck injury fatalities combined, which is 63.64% of the total fatalities. 53.57% of these were wearing a helmet, 25% were not wearing a helmet and 21.43% helmet use was unknown. 34.09% of all fatalities were head/neck injury fatalities with a helmet, 15.9% were not wearing a helmet, 13.64% helmet use was not known, and 36.36% were caused by multiple injuries or other than head/neck injury. A State of Kansas Health and Environment Department report to the National Highway Traffic Safety Administration (NHTSA) stated..."We have found no evidence that the death rate for motorcycle accidents has increased in Kansas as a result of the repeal of the helmet law. We have also not found any such evidence on a national basis". (Fatal Accident Reporting System NHTSA)

Let's examine the facts as shown in the 1989 Kansas Traffic Accident Facts published by Kansas Department of Transportation. The 1989 toll shows 428 killed, 32,814 injured in 63,642 accidents. Now let's examine how unhelmeted motorcyclists fit into these numbers. According to the Motorcycle Statistics (pg. 13) there were 27 total motorcycle fatalities (this includes motor scooters). There were 1128 listed injuries and 1272 listed accidents. Since what we are considering is the "Mandatory Helmet Use for all Riders" we must also factor in the information from the Kansas Department of Transportation Report DA-2 "Data Array of Selected Data Elements for Selected Accidents" 1-1-89 thru 12-31-89 LDCN Motorcycle Helmet Usage Kansas. Of the 27 fatalities, 4 were not wearing a helmet, this equals 9/10 of 1% of the total Kansas fatalities. 6 were wearing a helmet which is slightly over 1% of total fatalities, however these would not change with passage of SB 644 and is 2 more fatalities than those not wearing helmets. The other 17 fatalities the helmet usage is unknown and equals almost 4% of the total fatalities. (See graph 1985-1989, attachment 3) Using the data set as applied to the 1128 injuries, some interesting facts come to light. Of the 1128 injuries only 377 (33.4%) of the motorcycle injuries were considered to be incapacitating injuries (required admission to hospital) and equates to slightly over 1% of the total traffic injuries. Of the 377, 84 (3/10 of 1%)

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were helmeted and would once again not effect any change brought about by passing SB 644. 71 (2/10 of 1%) were not wearing helmets. Please note that in both the fatalities and incapacitating injuries the number of helmeted and non-helmeted are almost the same with those not wearing helmets slightly lower. The remaining 222 (almost 6/10 of 1%) whose helmet use was unknown make up the remainder of those who suffered incapacitating injuries. (See graph 1985-1989, attachment 4) The other points they state from the Louisiana Study: Medical costs for non-helmeted riders was 200% greater. Hospital costs for non-helmeted riders was 200% greater. Disability days were 255 days per 100 accidents vs. 41.6 days per 100 accidents for helmeted vs. non-helmeted riders.

Nebraska revised their helmet law to include all riders effective Jan 1, 1989 and from their report (Reference 1) comparing 1988-1989 some interesting facts come to light regarding the Louisiana study. The following is from the above noted Nebraska study. "The average length of hospital stay for injured and transported cyclists was similar each year. An evaluation of Louisiana's helmet use law showed a decrease in length of stay, but that study included patients discharged from the emergency department. When hospital stay was analyzed only for admitted patients in the Louisiana study, as in the present study, the length of stay was no different". "There is no statistically significant difference in average hospital charges to the admitted patients. Although this also appears to contradict the Louisiana study, which showed a decrease in medical care costs, that study included long-term medical costs in the analysis. When only emergency department and acute hospital costs were analyzed, as in our study, the average costs were similar. Again this might indicate that the costs of acute care for severely injured motorcyclists were similar whether a severe head injury is present or not". (Please also note 6 state comparison motorcycle crashes per registered motorcycles showing Nebraska has higher rates than the other five states without full helmet laws, Attachment 5) The 1990 International Motorcycle Safety Conference at Disney World in Orlando, Florida, which was organized by the Motorcycle Safety Foundation, a division of the Motorcycle Industry Council brought some interesting facts to the forefront. For example: A study of motorcycle accident victims and survivors by the heads of the Australian Adelaide's Craniofacial Unit, showed that riders sustaining a facial impact while wearing a full-face helmet were more likely to be killed than riders wearing no helmet at all. According to the study by Doctors Rodney D. Cooter and David J. David, "the hospitalized group of riders had high scores of facial fracturing. It surprised us that when motorcyclists suffered a lot of facial fracturing, they often had little or no brain damage. It seemed their faces had absorbed most of the impact." Careful medical examination of the deceased riders, Cooter and David said, indicated that the impact to the helmet's face bar transmitted such force to the helmet's chin strap that the victim's jawbones were forced into the base of the skull hard enough to cause a fracture. Dr. Harry Hurt, author of the University of Southern California accident study lent support to Cooter and David's study. In a report given at the conference, Hurt noted impact to the chin bar of some full face helmets "produces an action similar to a cookie-cutter, with injury rather than protection." Furthermore, Hurt concluded that severe injury and death caused by accidents in which the head is subject to extreme rotational force "can not be excluded by any helmet in many accident conditions." Hurt also noted that many head injuries resulting in deaths among motorcycle riders are caused by the force of severe chest impacts on the spine and cranium and would not be reduced by wearing a helmet.

Statistics given by Gregory M. Trojan, an EMT from Southwest General Hospital (Reference 2) noted that head injuries from all causes account for only 2% of the total number of deaths in the U.S. each year, and that motorcycle accident victims represent less than 4% of that 2%. By contrast, studies cited by Trojan show that car wrecks, bicycle accidents, pedestrian accidents, falls, assaults, and bullet holes all cause many more head injuries than motorcycle crashes. It appears repeats didn't really cost Kansas the purported \$9.7 million in the past 16 years as stated.

While on the subject of costing money, according to Motorcycle Dealers News and R.L. Polk 1990: Reflecting the economic impact of helmet laws, new motorcycle sales dropped 40% in Nebraska and 35% in Oregon in 1989 the year following their helmet law. In Kansas in 1990 the retail sales of 3320 units at estimated cost of \$13,620,000. Parts, accessories and riding apparel for franchised dealers \$8,150,000 and

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This totals an estimated \$37,024,000 in generated revenue. If we apply a possible 37.5% loss to the projected generated revenue (37.5% The mean average percentile between Nebraska and Oregon) it would equate to a loss of \$13,884,000 in generated revenue. This would also bring about a loss of \$728,910 in lost sales tax alone. It does not include the additional loss of Property tax, corporation taxes, excise tax, gas tax, registration fees, insurance premiums, lost interest on loans, lost revenue from advertising, along with loss of other associated trades, i.e., paint shops, upholstery shops, etc. Of the approximately 50 franchised and 92 non-franchise dealers in Kansas they have 588 employees with an annual payroll of \$8,944,000. Applying the 37.5% this could bring about the loss of 221 jobs, \$3,354,000 lost income and lost income tax on that amount. This could also equate to \$50,830 in Unemployment Compensation paid out per week.

Due to the high failure rate of motorcycle helmets, there are no longer any motorcycle helmets (except custom and racing) manufactured in the United States. This has been brought about by the large number of product liability litigations. If SB 644 were to become law thousands of Kansans would be forced to spend their hard earned money on imported helmets, thus increasing our foreign trade balance. DOT tests helmets by a 6-foot vertical drop impacting at 13.66 m.p.h. Even at these low impacts 52% of the helmets tested by DOT since 1974 have failed...and only ONE has passed since 1984. The only helmets on which tests are made are medium size helmets. (DOT Helmet Test Reports, 1974-1990). This equates to a 150 pound person striking his head at 4.5 m.p.h.

If a helmets function is to reduce injuries and fatalities then logic would dictate that helmet law states would experience dramatic decreases in those categories. The fact that helmet law states have slightly higher accident and fatality rates is not the issue; it's that they DON'T have lower rates. The figures are as follows: The 22 states (plus the District of Columbia) that had helmet laws in 1989, had an average fatality rate of 8.18 per 10,000 registrations. The 23 states that had helmet laws applying to minors only in 1989, had an average fatality rate of 6.74 per 10,000 registrations. The 5 states that had no helmet law in 1989, had an average fatality rate of 6.16 per 10,000 registrations. In Kansas in 1990 the average fatality rate for 10,000 registrations was 5.74, this rate is below all three categories shown and well below the 1990 National average of 7.76 per 10,000 registrations.

In logic, a faulty premise necessarily produces a false conclusion, and "the public burden" theory is flawed from the beginning because it's advocates assume that a helmet always makes the difference between sound health and debilitating injury. In fact, the helmet rarely ever makes a significant difference, simply because it is not designed, and built to do so. It is designed and built to satisfy FMVSS 218, (test method shown above) which demands only that the helmet provide protection at impact speeds below 15 m.p.h. (See attached label from inside helmet, Attachment 6) As it's second faulty premise the "public burden" theory assumes that only injured motorcyclists, and no other people, impose a burden on the public health system. True there are motorcyclists who don't have insurance or enough of it to cover the medical expenses they incur as a result of accidents. However, about the same percentage of all other types of motorists lack insurance too. Thus, as previously stated motorcyclists impose no more "public burden" than the vastly larger number of other people who suffer head injuries. Automobile accidents account for 45.5% of patients with head injuries and are responsible for 37.1% of all fatalities involving head injury (The Journal of Trauma, 1989). Motorcycles comprise 2.5% of U.S. vehicles, yet are involved in only 1.1% of the accidents (National Safety Council "Accident Facts", 1989). Motorcycle accidents make up only 1/10 of 1% of all medical expenses. (MIC and NHTSA data 1989).

How are runaway health care costs the patients fault? According to the Health Care Finance Administration Office of National Cost Estimates, health care costs rose more than twice as fast as inflation over the past ten years. At a time when it seems as though government is trying to control almost every aspect of it's citizens daily lives they have done nothing to control doctor's fees, hospital costs, or drug costs. The only thing government has done is cut \$40 billion from Medicare with \$10 billion coming out of the pockets of those who can least afford it. One family in every two will face hospital bills this year. An average hospital bill has sky rocketed to over \$4,200 (American Hospital Association Statistics). Of the roughly \$60 billion spent annually by the insurance industry as a result of all motor vehicle accidents, \$21 billion is

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leaves approximately \$8 billion to be spent on medical expenses for motor vehicle accidents. According to NHTSA motorcyclists account for 1/10 of 1% of motor vehicle medical costs. To the insurance industry this would amount to \$8 million in medical costs for motorcyclists nationwide. With the number of flaws already found in the Louisiana study, it is no surprise to find another. Under "Legislation" they refer to the use of rider education as being a "dismal failure". The dismal failure that can be noted is in the facts as shown in their study. The facts are as follows: The Motorcycle Operator-Skill Test II (MOST II), is one of the many Rider Education Courses developed by the Motorcycle Safety Foundation (MSF) not the American Motorcyclists Association. The MSF put nearly 3 years of research in development of this program, in research comparing an existing state test, the (MOST) showed a 15% reduction in accidents. When coupled with a rider training program, accidents were reduced 21%. (1991 Motorcycle Statistical Annual). In 1987, California instituted a California Motorcyclist Safety Program that concentrated on rider training. Since 1987, accidents per 100 licensed motorcycle riders have fallen from 3.8 in 1986 to 2.5 in 1989...close to 25%. Even better, accidents involving riders under the age of 18 fell from around 3,000 in 1986 to just over 1,000 in 1989...an almost 60% decline. Would someone please let Dr. McSwain know that Louisiana spends \$102,000 in state funding on MSF Rider Education annually? We strongly encourage this Committee to report unfavorably on SB 644.

THANK YOU

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OCTOBER 25, 1990

OFFICE OF TRAFFIC SAFETY
 KANSAS DEPARTMENT OF TRANSPORTATION
 TOPEKA, KANSAS

MOTORCYCLE FATALITIES AND INJURIES
 BY HELMET USE

Year of	Killed			Injured		
	Operator	Passenger	Total	Operator	Passenger	Total
<u>Year of 1975</u>						
Helmet - worn	27	2	29	1225	186	1411
Helmet - not worn	5	1	6	35	10	45
Unknown if worn	3	0	3	328	66	394
Total	35	3	38	1588	262	1850
<u>Year of 1976</u>						
Helmet - worn	17	5	22	971	135	1106
Helmet - not worn	10	3	13	478	82	560
Unknown if worn	8	2	10	268	61	329
Total	35	10	45	1717	278	1995
<u>Year of 1977</u>						
Helmet - worn	9	1	10	595	77	672
Helmet - not worn	29	7	36	920	195	1115
Unknown if worn	8	1	9	415	103	518
Total	46	9	55	1930	375	2305
<u>Year of 1978</u>						
Helmet - worn	5	1	6	490	67	557
Helmet - not worn	31	1	32	862	167	1029
Unknown if worn	12	2	14	438	105	543
Total	48	4	52	1790	339	2129
<u>Year of 1979</u>						
Helmet - worn	7	1	8	495	70	565
Helmet - not worn	26	11	37	802	151	953
Unknown if worn	8	1	9	621	146	767
Total	41	13	54	1918	367	2285
<u>Year of 1980</u>						
Helmet - worn	10	0	10	496	77	573
Helmet - not worn	24	5	29	750	153	903
Unknown if worn	17	4	21	721	132	853
Total	51	9	60	1967	362	2329

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MOTORCYCLE FATALITIES AND INJURIES
BY HELMET USE

	Killed			Injured		
	Operator	Passenger	Total	Operator	Passenger	Total
<u>Year of 1981</u>						
Helmet - worn	30	2	32	504	65	569
Helmet - not worn	11	5	16	533	97	630
Unknown if worn	21	2	23	810	178	988
Total	62	9	71	1847	340	2187
<u>Year of 1982</u>						
Helmet - worn	8	1	9	358	39	397
Helmet - not worn	14	0	14	262	50	312
Unknown if worn	22	3	25	875	189	1064
Total	44	4	48	1495	278	1773
<u>Year of 1983</u>						
Helmet - worn	5	1	6	319	36	355
Helmet - not worn	13	1	14	209	34	243
Unknown if worn	20	2	22	797	143	940
Total	38	4	42	1325	213	1538
<u>Year of 1984</u>						
Helmet - worn	12	1	13	335	36	371
Helmet - not worn	12	1	13	263	27	290
Unknown if worn	19	2	21	901	146	1047
Total	43	4	47	1499	209	1708
<u>Year of 1985</u>						
Helmet - worn	10	0	10	254	19	273
Helmet - not worn	6	1	7	188	33	221
Unknown if worn	13	2	15	927	158	1085
Total	29	3	32	1369	210	1579
<u>Year of 1986</u>						
Helmet - worn	7	1	8	269	28	297
Helmet - not worn	9	1	10	231	40	271
Unknown if worn	13	4	17	768	168	936
Total	29	6	35	1268	236	1504

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MOTORCYCLE FATALITIES AND INJURIES
BY HELMET USE

Year of 1987	Killed			Injured		
	Operator	Passenger	Total	Operator	Passenger	Total
Helmet - worn	8	0	8	345	35	380
Helmet - not worn	8	2	10	257	34	291
Unknown if worn	19	3	22	720	137	857
Total	35	5	40	1322	206	1528
<u>Year of 1988</u>						
Helmet - worn	345	0	3	312	38	350
Helmet - not worn	5	1	6	219	42	261
Unknown if worn	23	10	33	658	112	770
Total	31	11	42	1189	192	1381
<u>Year of 1989</u>						
Helmet - worn	6	1	7	296	35	331
Helmet - not worn	4	2	6	192	36	228
Unknown if worn	13	1	14	643	113	756
Total	23	4	27	1131	184	1315

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MOTORCYCLE FATALITIES 1976

JAN.1-JUN 30

JULY 1-DEC. 30

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	HELMET WORN	NO HELMET	UNKNOWN	HELMET WORN	NO HELMET	UNKNOWN	TOTAL
Head Injury % of Total	4 28.57%	1 7.14%	1 7.14%	5 16.67%	6 20%	4 13.33%	21 47.73%
Neck Injury % of Total	5 35.72%	0	1 7.14%	1 3.33%	0	0	7 15.91%
Total Head & Neck Injuries % of Total	9 64.29%	1 7.14%	2 14.28%	6 20%	6 20%	4 13.33%	28 63.64%
Other Injuries % of total	2 14.28%	0	0	1 3.33%	3 10%	2 6.67%	8 18.18%
Both Head & Other Injury	0	0	0	1 3.33%	3 10%	0	4 9.09%
Cause of Death Unknown	0	0	0	3 10%	1 3.33%	0	4 9.09%
Total % of Total Fatalities	11 78.57%	1 7.14%	2 14.29%	11 36.76%	13 43.33%	6 20%	44

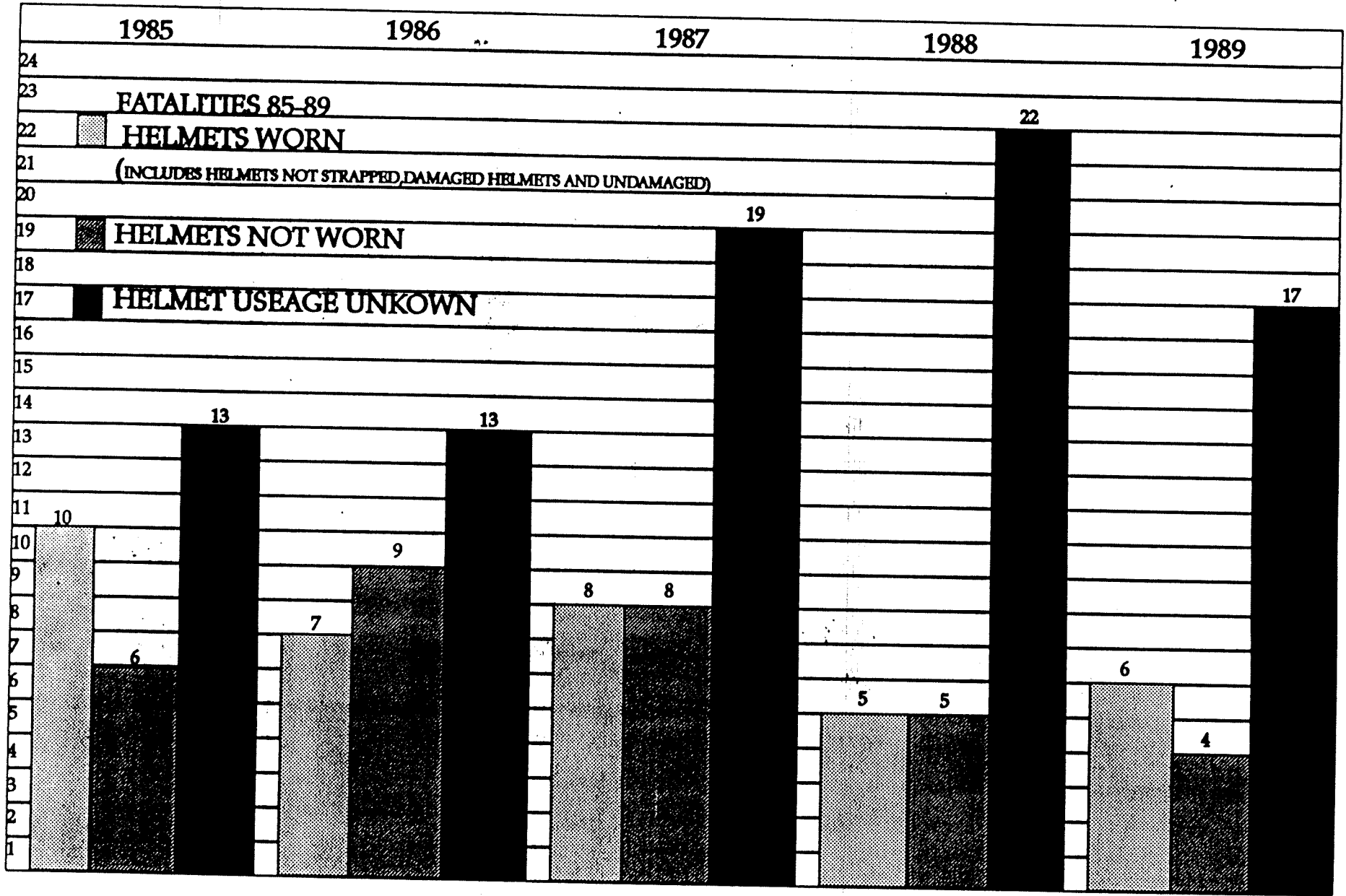
Of the 21 head injury fatalities 9 or 40.86% were with a helmet, 7 or 33.3% were without a helmet and 5 or 23.81% it was not known if a helmet was worn.

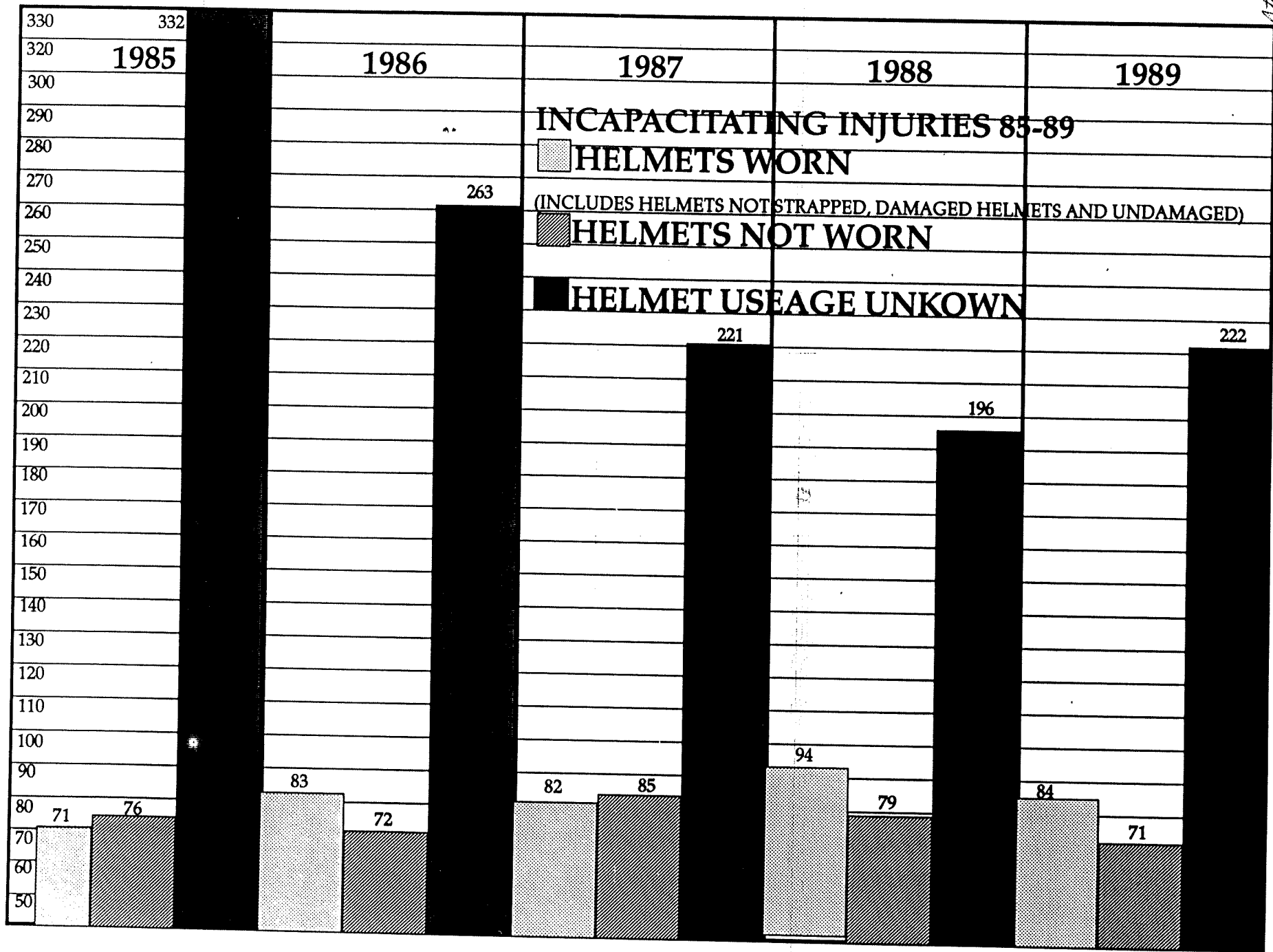
There were no neck injury fatalities without a helmet, only 1 where it was not known if a helmet was worn, and 6 or 85.71% of the neck injuries were with a helmet.

There was 28 head/neck injury fatalities combined, which is 6.64% of the total fatalities. 53.57% of these were with a helmet on--25% of these were with no helmet and in 21.43% of them it was not know if a helmet was worn.

34.09% of all fatalities were head/neck injury fatalities with a helmet--15.9% were with no helmet--13.64% it was not known if a helmet was worn, and 36.36% were caused by multiple injuries or other than head/neck injuries.

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ATTACHMENT 5

Table 1
Motorcycle Crashes Per Registered Motorcycle
In Nebraska and Comparison States

State	Helmet Law	Statistic	1984	1985	1986	1987	1988	1989
Nebraska	None 1984-88 All Riders, 1989	Crashes	1,274	1,239	970	979	857	539
		Registrations	46,532	42,548	33,077	31,770	29,088	23,560
		C/R*	274	291	293	308	295	229
Iowa	None	Crashes	2,589	2,040	1,905	1,905	1,800	1,500
		Registrations	183,687	188,277	172,444	163,521	145,967	139,038
		C/R*	141	108	110	116	123	108
Kansas	Under 18	Crashes	1,835	1,681	1,644	1,534	1,274	1,189
		Registrations	83,744	78,739	73,890	69,532	64,724	61,419
		C/R*	219	213	222	221	197	194
North Dakota	Under 18	Crashes	386	380	286	285	234	186
		Registrations	31,480	30,596	28,118	32,152	23,978	21,674
		C/R*	123	124	102	89	98	86
Oklahoma	Under 18	Crashes	2,350	2,279	1,917	1,626	1,493	1,315
		Registrations	150,963	104,457	68,093	67,802	64,056	60,863
		C/R*	222	218	282	240	233	216
South Dakota	Under 18	Crashes	559	551	475	399	424	377
		Registrations	38,956	37,905	36,036	33,800	31,421	29,942
		C/R*	143	145	132	118	135	126

*C = Crashes / R = Registrations + 10,000

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"WARNING:NO PROTECTIVE HEADGEAR CAN PROTECT THE WEARER AGAINST ALL FORESEEABLE IMPACTS. THIS HELMET IS NOT DESIGNED TO PROVIDE NECK OR LOWER HEAD PROTECTION. THIS HELMET EXCEEDS FEDERAL STANDARD FMVSS218: EVEN SO, DEATH OR SEVERE INJURY MAY RESULT FROM IMPACTS AT SPEEDS AS LOW AS 15 MPH WHILE WEARING A HELMET" 1990 HELMET LABEL

REFERENCE 1

If you will please direct your attention to the accident date for the 13 years. 1977-89, compiled and analyzed by Dr. A. Roland Mackenzie, M.D. Dr. Mackenzie's computations are derived from the annual reports of the Motorcycle Safety Foundation which in turn obtains figures from the Department of Transportation of each State.

TABLE 1

Accidents and Fatalities/Million Registrations				
HELMET STATES			REPEAL STATES	
ACCIDENTS	FATALITIES		ACCIDENTS	FATALITIES
1977	34,230	779.0	35,795	875.5
1978	38,564	937.7	32,797	982.7
1979	34,471	856.2	32,218	963.3
1980	34,371	890.8	29,359	895.0
1981	33,788	893.3	29,828	846.6
1982	34,513	481.8	27,076	798.5
1983	35,912	889.1	28,162	757.8
1984	33,569	888.6	30,246	826.7
1985	35,957	917.2	21,264	868.7
1986	35,163	877.5	31,289	913.2
1987	31,427	877.3	30,045	857.9
1988	30,057	829.8	27,974	793.5
1989	25,141	749.2	25,212	728.5

TABLE 2

TOTAL FIGURES 1977-1989 INCLUSIVE

	HELMET STATES	REPEAL STATES
Registrations	23,875,511	41,045,312
Accidents	807,016	1,225,846
Fatalities	20,668	34,862
Accident Rate Per		
Million Registrations	33,801	29,866
Fatality Rate Per		
Million Registrations	865.7	849.4

In an analysis of 64,920,823 motorcycle registrations there have been 13.2 per cent more accidents and 1.9 per cent more fatalities in the helmet states than in the repeal states in the last 13 years in the U.S.A.

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REFERENCE 2

BRAIN INJURY IN RELATION TO MOTORCYCLING
A REVIEW OF MEDICAL LITERATURE
NUEROANATOMY AND MECHANISM OF BRAIN
GREGORY M. TROJAN EMT-P

PRESENTED AT ORLANDA MSF MEETING

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**TESTIMONY PRESENTED TO
KANSAS SENATE TRANSPORTATION COMMITTEE
25 FEB. 1992
BY
JACQUE SUE**

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*att. 14
2-25-92*

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Gentlemen, I'm not particularly happy to be here to testify. I feel empathetically sorry for you who were elected to pass laws for your State and find your wisdom tossed aside to merely mimic mandated legislation. You are not alone, of course; 25 other legislatures must also decide whether to continue their statement for freedom or wilt in the name of money.

Statistics have been presented to you. The differences are mind-boggling. IF there's a way for you to save lives, you would--we all would. Even beyond the federal mandate, the proponents of this bill would have you believe that a hot, heavy, helmet would benefit all riders, the state coffers and your consciences. I just can't go along with any of that. When it is in black and white that in 1976 when we had a helmet law, 44 persons died from motorcycle accidents and in 1989, only 27 died--how did helmets save lives? ABATE of Kansas has become more vocal every year--about safety--about education--about trying to point out to automobile drivers that they must look for "heads" as well as semi's before pulling out into traffic. I come to Topeka and everyone I meet has a "biker" story to tell me. In the past 6 years, I still have only one who believes a helmet saved him. All of the others have absolute horror tales of accidents caused by a helmet, or helmets breaking falling off of a stopped motorcycle, or lives taken because of acceleration/deceleration injuries.

I advised the House Transportation Committee last year that I would not ride a motorcycle behind a man who was inexperienced, under the influence of alcohol or drugs--OR who had his senses diminished by wearing a helmet. I've had bypass surgery followed by congestive heart disease. My personal strength doesn't allow me to ride a motorcycle myself. I purchased a trike last year after the session; why should I have to worry about who I rode with? Mechanics are rebuilding the trike so my clutch, brakes and gas are on the floor--not the handlebars...he's building a trike for this handicapped heart patient.

Perhaps I should give it up...I can't ride with a helmet. The weight isn't much if you're just holding it, but "in the wind" or at any rate of speed, a helmet makes motorcycling only for the young and strong.

My youth and strength may be gone, but my brain still works well. We've heard about head injuries and brain injury. Did you know that your brain's consistency is about that of pudding? The brain is surrounded by a fluid inside a tissue covering. Granted there is not much space between the brain and the skull, but there is a little--so the pudding can flop around a little when it gets a big jar. Over 50% of persons receiving a severe brain injury die before reaching a hospital. There are two kinds of injury to the

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brain...contact and acceleration/deceleration injuries. If you were hit in the head with a sledgehammer, this would be a contact injury...when an object hits the head, the use of a hard hat or helmet would dissipate the energy of impact by spreading it over a large area. This gives good reason for hard hats in construction areas and helmets while at bat in a baseball game.

Seldom is a motorcyclist standing still when he receives a head injury. Acceleration/deceleration injuries occur when the head is suddenly placed in motion or stopped. IF a cyclist is involved in an accident, they usually are thrown or leap from the bike. If their helmet impacts with an object like concrete, the helmet and then the rider's head stops in its forward motion. The brain, having its own pudding mass, continues in motion until it strikes the inside of the skull and rebounds striking the opposite side of the skull. The helmet may have saved a cut, but it cannot save the brain from injury!

IF it can't save your brain, why wear it? As our Jan 1 thru July 1, 1976 handout showed you--cause of death of most helmeted riders was a broken neck. Unhelmeted riders didn't die from broken necks. Of course, broken necks don't always kill. I have several dear home health patients who didn't die from broken necks; they were sentenced to life in a wheelchair or hospital bed. No, none of them were injured on motorcycles--all but one was the result of car accidents; one was a skiing accident and he has laughed that a helmet wouldn't have saved him either!

I frankly don't know a biker in a wheelchair whose injuries were caused by a motorcycle. Bikers mostly have roadrash accidents or fatal ones. There's not a lot in between and all of us know it when we swing that leg over the seat. Not to say there aren't some who lived with horrible injuries.

I feel inept here hoping to convince you not to do something I know the majority of you don't want to do anyway. Last year's good reasons are no good because the decision is not really yours to make, you feel. Kansas can't throw away money. Nationwide helmet laws may just throw away so many dollars and lives that it will amaze you.

My fulltime work now in Southwest Kansas is home health, hospice, medical equipment and supplies. In the past almost 9 years, my companies have been paid over \$5 million; \$9,000 of that was for a motorcycle accident victim. His care cost much more than \$9,000 in the hospital; he lost his nose, broke an arm and some ribs. All his medical bills, however, were paid for by the insurer of a company pickup that pulled out in front of him. That still costs "us" insurance money, but motorcycle injury costs are a pittance compared to other injury costs.

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I read somewhere this past week the absolute statement that "75% of motorcyclists don't have insurance." Jeez! Do you know how much money it costs to keep a motorcycle running? We have a health care crisis--wanting to be sure that all Kansans have health insurance of some kind. Those stats don't show that 75% of any group doesn't have insurance. I cannot believe that 75% of all bikers work for small companies that don't provide insurance. I KNOW bikers have to have jobs; they simply couldn't keep up the expense of a motorcycle without one. Any kid can go out and buy a \$300 junker car, buy insurance long enough to get a license plate and pull out in front of a \$12,000 Harley. Let's get logical; which one doesn't have insurance? After all the average Midwest Motorcyclist is 34 years old and makes more than \$35,000 per year.

For years Kansas legislators have left motorcyclists with the choice of wearing or not wearing a helmet. I've heard it three ways...(1) you feel it should be a personal choice; (2) you figure we know what is best for us; or (3) you feel the world is better off without those bad guys--don't force them to wear helmets if it will save their lives. For whichever reason, we have appreciated your not passing laws forcing helmet usage on those who wish to decide when, why and if to wear one.

This year, tho I believe we who believe in freedom of choice in this matter can still prove to you that a helmet on a motorcyclist is not a life-saving factor, and that a larger percentage of persons injured in other accidents, as well as those with birth injuries/damage use public funds than do bikers--that probably won't work--because of the federal mandate. I just ask that you give us until next year, either to get the "mandated penalty" lifted OR show you how it can be used to Kansas' advantage. The blackmail note said 1993!

Actually, as the Kansas Legislature's crowned queen in 1970, as a windmill-fighting Democrat who worked for a Republican Senator and Governor, as the first woman to wear pants in the Kansas Capitol, as an optimist who keeps getting married but who believes in making my own decisions so I keep getting divorced...as a person believing in state's rights, I would rather ask you to finally say "Pffft" to Congressional mandates that take away your right to decide.

The decision is up to you...thank you for your consideration.

JACQUE SUE
2002 Downing
Garden City, KS 67846

(316) 275-4077 (work); 276-3312 (home)

Att. 14
2-25-2

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TESTIMONY BEFORE THE SENATE
TRANSPORTATION AND UTILITIES COMMITTEE

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

February 25, 1992

Re: Testimony in Opposition to SB 644

I am a 47 year old motorcyclist, having begun riding at age 14. I currently am riding my fifth Harley Davidson, a 1991 FXSTC (Softail). I am an attorney in Topeka.

As a long time motorcycle rider, I am opposed to helmet laws for adults and opposed to SB 644.

The following are the reasons I oppose SB 644:

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. 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. See U.S. Dept. of Transportation, National Highway Traffic Safety Administration Report to Congress, 1980.

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

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

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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, Dec. 21, 1991; page 3739). Kansas will receive \$275,000 per year for three years for general 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 \$125,000 per year on public information and education. Passing a helmet law will produce \$275,000 a year for three years additional funds for education. This is inadequate.

An adequate highway safety and educational program may cost \$1.5-\$3 million per year.

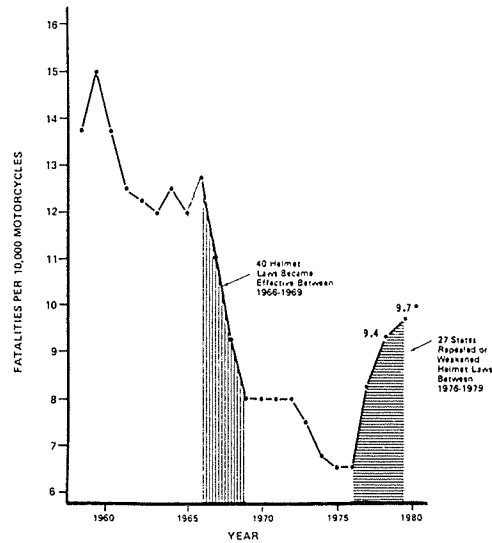
An adequate program may save the state five times the cost as follows:

- 1) Lost wages and tax receipts;
- 2) State's expenses for medical bills;
- 3) Lowered cost of traffic law enforcement due to better driver awareness;
- 4) Long term public cost of the disabled.

Recommendation: that an interim study committee be appointed to review a thoughtful response to Kansas' use of the federal funds offered under PL 102-240, including the need for a helmet law, the need for highway safety and education programs, and the real cost to the Kansas taxpayer under either or both courses of action.

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**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

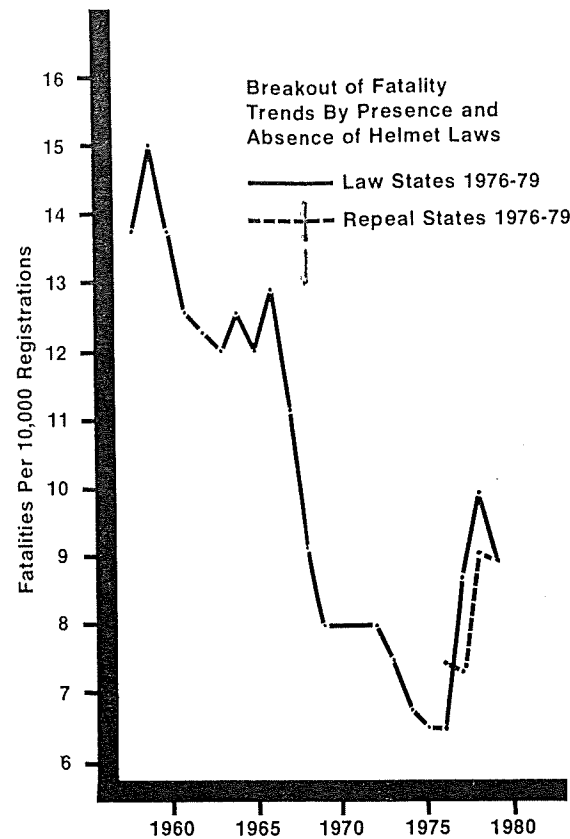
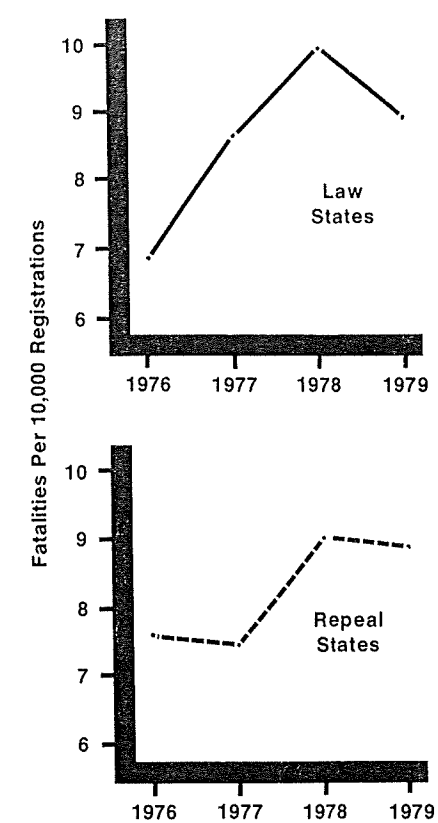
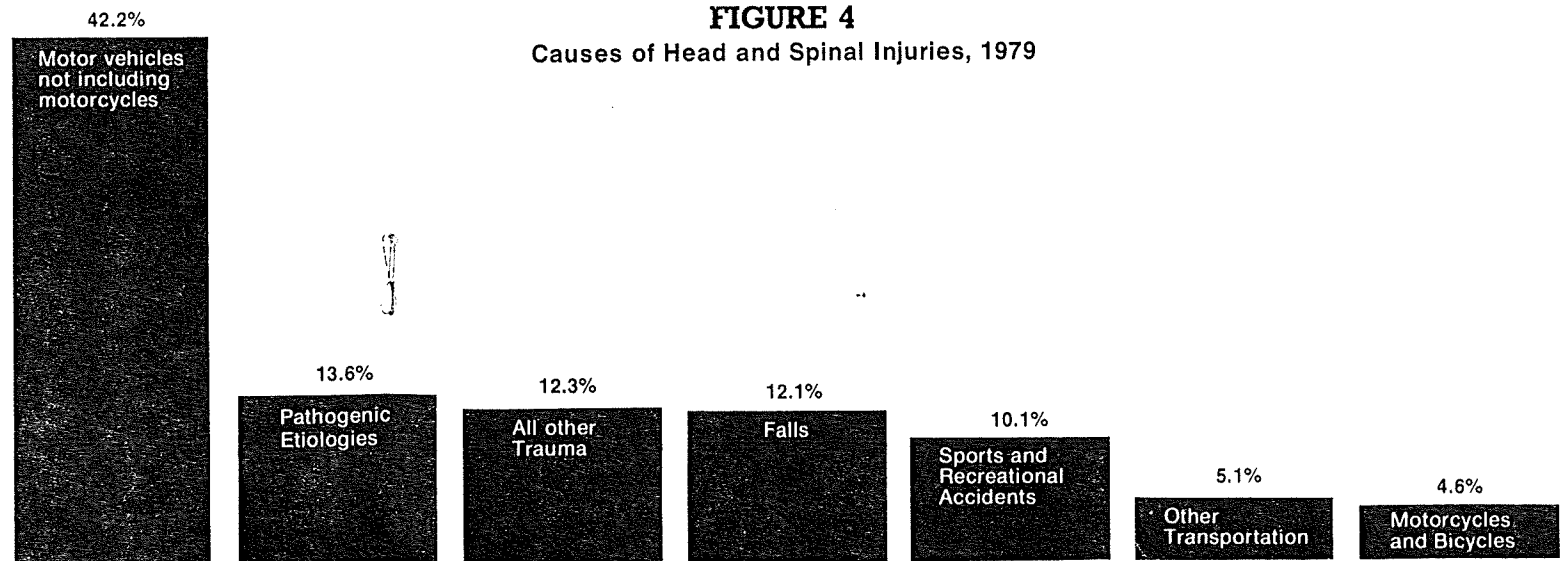


FIGURE 3



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FIGURE 4
Causes of Head and Spinal Injuries, 1979



Testimony for
The Kansas Senate Transportation and Utilities Committee

concerning

SB 644, motorcycle helmet law

on February 25, 1992

from

Mr. Kelly Wendeln
919 S. Highland
Chanute, KS 66720

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Fatalities go up every time Kansas passes a helmet law

Pro-helmet law exaggerated claims

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Fatalities go up every time Kansas passes a helmet law

Information on the following page from the Kansas Department of Transportation will show that all three times Kansas has passed a helmet law, motorcycle fatalities went up the following year. According to the facts from the Kansas D.O.T.:

1. There were 50 fatalities when Kansas passed the last helmet law in 1979 that forced 16- and 17-year olds to wear a helmet. The next year fatalities jumped to 57.
2. There were 22 fatalities when Kansas passed a helmet law in 1972. The next year fatalities almost doubled to 42.
3. There were 14 fatalities when Kansas passed the very first helmet law in 1967. The next year fatalities more than doubled to 30. Registrations went up about 10 percent all three times.

We cannot afford to pass a helmet law this year and have fatalities skyrocket next year. Helmet laws don't work and that is a fact!

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Kansas Motorcycle Registration Percentage Change and Fatalities
from

Safety Department, Accident Research Section
Kansas Department of Transportation
Topeka, Kansas

	<u>Year</u>	<u>Registrations</u>		<u>Registration Percentage Change</u>	<u>Fatalities</u>
	1965	21,881	-	+35.8%	20
	1966	28,015	-	+28.0%	19
Helmet law passed effective July 1, 1967 for all ages.	- 1967	31,538	-	+12.6%	14
	1968	34,336	-	+8.9%	30
	1969	39,835	-	+16.0%	19
Helmet law repealed effective July 1, 1970 for over 21 yrs. of age.	- 1970	53,847	=	+35.2%	24
	1971	74,525	-	+38.4%	30
Helmet law passed effective July 1, 1972 for all ages.	- 1972	88,894	=	+19.3%	22
	1973	99,499	-	+11.9%	42
	1974	92,354	-	-7.2%	46
	1975	90,329	-	-2.2%	38
Helmet law repealed effective July 1, 1976 for over 16 yrs. of age.	- 1976	86,789	=	-3.9%	47
	1977	84,502	=	-2.6%	55
	1978	81,944	-	-3.0%	53
Helmet law age raised effective July 1, 1979 for under 18 yrs. old.	- 1979	87,511	=	+6.8%	50
	1980	92,218	-	+5.4%	57
	1981	140,677	-	+52.5%	69
	1982	106,566	-	-24.2%	52
	1983	83,587	-	-21.6%	39
	1984	83,744	-	+1.9%	48
	1985	78,739	-	-6.0%	37
	1986	73,890	-	-6.2%	35
	1987	69,532	-	-5.9%	41
	1988	64,724	-	-6.9%	32
	1989	61,419	-	-5.1%	32

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Pro-helmet law exaggerated claims

Here is a good example of the kind of false information motorcyclists have to confront. This editorial claims, "...motorcyclist deaths in Kansas have tripled." The Kansas D.O.T. statistics on the preceding page clearly refute this. There is no way motorcyclist deaths in Kansas have tripled.



Helmet Law and Cycle Deaths

The latest report from the National Highway Traffic Safety Administration, showing that ~~motorcyclist deaths in Kansas have tripled~~ since the mandatory helmet law was gutted, should spur our state legislators to fix Kansas' "halfway" helmet law. Right now, only riders under 16 need wear the helmets.

Volumes of statistics on cycle injury and death rates can be compiled and offered as evidence by both those in favor of helmet laws and those who vehemently oppose them. But there are a few things that stand out, plain and simple.

One is that, no matter whose fault it is, the motorcycle rider who has an accident in almost any traffic situation is the best candidate for being hurt or killed. He or she has almost no protection from other vehicles or fixed objects. It is the human body versus whatever it collides with, and usually it is the human body that sustains the damage.

A lot of people have talked around it for a long time, but it should be clear: Motorcycles are inherently more dangerous to their operators in a crash than almost any vehicle imaginable. Even with helmets, heavy gloves and boots, and other protective clothing, cyclists are more likely to be injured or killed in accidents. But that is no reason to discard the few safety items that improve their chances of surviving or escaping serious harm.

The fact is, helmets are the best way to protect heads that may be thrown against cars, curbs, pavement or whatever, in a cycle

accident. And it doesn't matter what the age of the head is: A 42-year-old head will suffer just as badly as a 15-year-old head. That's why the under-16 helmet law doesn't make much sense — it offers only protection to the young riders.

As for the argument that each rider has the right to expose himself to harm at his own discretion, his accident isn't his alone. We all pay for higher hospitalization costs and for the community ambulances and emergency personnel who must rush to the scene of the mishap.

And the die-hard cyclists who fight helmets on the principle of individual freedoms should consider for a moment the kind of psychological suffering and guilt another motorist might have to carry around for years after being involved in a collision where a helmet could have spelled the difference between life and death.

Generally, we don't like to see the federal government using threats of cutting off money to the states to see that its wishes are carried out. But a renewed effort in Congress to allow rules that would curtail up to 10 percent of federal highway monies to states without effective cycle helmet laws may be the only way to persuade states to do the right thing.

With or without that threat, the Kansas Legislature needs to get busy and do away with the "halfway helmet" law that protects only people under 16. In its place there must be a helmet law that promotes safety for all motorcyclists.

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Deaths Doubled Without Helmets, Cycle Study Says

Page 4

This is the "Lummis" study for the U.S. Department of Transportation. Note this doesn't exactly say that Kansas motorcyclist deaths have tripled, but rather that head injury deaths have tripled. However, most people probably interpreted this the same way the Wichita Eagle editorial writers did. For this dubious and craftily worded study, taxpayers paid \$250,000.00.

By DAVE BARTEL
Of Our Washington Bureau

WASHINGTON — The repeal of state laws requiring motorcycle riders to wear helmets has more than doubled the rate of fatal head injuries in cycle accidents, a federal report said Thursday.

Motorcycle head injury deaths tripled in Kansas following repeal of the state's mandatory helmet law in 1976, according to the National Highway Traffic Safety Administration.

Colorado and South Dakota also experienced alarming increases in fatal head injuries for cyclists, the study said.

The three states were included in a study made public by NHTSA Administrator Joan Claybrook. She is using the figures to launch a new drive for reinstatement of mandatory state helmet laws in the 26 states that have dropped them since 1976.

"THE STUDIES WE HAVE just completed demonstrate that states which repeal their helmet laws experience dramatic declines in helmet use and disturbing increases in head injury rates," Claybrook told a news conference.

"In Colorado, Kansas, South Dakota and Oklahoma, helmet wearing rates have dropped to below 60 percent since repeal of their helmet laws. The fatal head injury rates have doubled."

The states repealed or limited their helmet laws to cycle riders under age 18 after Congress in 1976 eliminated federal restrictions that threatened states with the loss of federal highway money unless they adopted mandatory helmet laws.

"MOTORCYCLE DEATHS in 1977 were up to 24 percent over 1976, and one important element of this increase was a decline in helmet use," Claybrook said. "With a new state legislative season coming up, it is vital that we immediately inform governors and state legislators of these findings."

She cited two major conclusions from the new federal study:

"First, motorcycle helmets work. They reduce head injuries significantly without causing injuries. In the areas studied, motorcyclists involved in crashes who were not wearing helmets were twice as likely to suffer a head injury as those who were, and three to nine times more likely to suffer a fatal head injury."

SECOND, MANDATORY state helmet laws also work. The study found that 95 percent of all cycle riders wear

helmets when required to, she said, but the number of helmeted riders drops to 60 percent or less when state laws are eliminated.

"As a result of the study's findings, the department is urging the re-enactment of helmet-use laws in the 26 states that have repealed them," Claybrook said.

Steps being considered now by the federal Department of Transportation include an effort in Congress this year to reinstate federal rules that require states to adopt helmet laws or face the loss of up to 10 percent of their federal highway money, she said.

The rate of fatal head injuries in Kansas increased from one for each 1,000 accidents while the law was in effect to 27 per 1,000 accidents after helmet requirements were eliminated for riders over age 18, the study said.

Kansas ABATE has an excellent rider education program which should be encouraged by the legislature. In closing, I would like to point out that the best piece of safety equipment is not what you put on your head, but what you put in your head.

att. 16
2-25-2
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TO: Members of the Committee on
Transportation and Utilities.

Concerning Senate Bill #644

Issues concerning Motorcycle Helmet Bill

I. Helmets

1. Are expensive \$85 to \$349 each
2. Are an out of pocket expense
unlike seatbelts
3. Have an uncertain life
must be replaced if dropped, accident
or every 3-4 years U.V. exposure

II. Motorcyclists pay taxes

1. Sales tax on the motorcycle
2. personal property taxes yearly
3. gasoline tax both state + federal

III. Federal Government blackmail

about returning Federal gas taxes to state

1. Interstate speed limits
2. Seat belt laws
3. now helmet laws for motorcycles
4. what next?

IV. If purpose of this law is to try to make motorcyclists safer

1. Helmets won't do it
2. ^{Education} Motorcycle Safety Courses through
the Motorcycle Safety Foundation
Kansas has a good program (Topeka)
3. Law enforcement should be making
highways, streets, etc. safer
 - a) patrolling cities - crime
 - b) not stopping motorcyclists about helmets

Laurie Blush

ABATE OF KANSAS, INC.

650 ELM
PERRY, KS.
66073



(913) 597-5140
1-800-657-5763
FAX (913) 597-5015

Mr. Chairman, Members of the Committee,

Thank you for allowing me to submit this written testimony in opposition to S644.

Others have submitted the numbers and verification that show the use of helmets in fact do not add to the social burden or to reduction of fatalities. I have two basic requests when you consider this or any other bill pertaining to helmets and freedom of choice.

First off, operating a motor vehicle, especially a motorcycle is by large part a frame of mind. A motorcyclist has to drive defensively and be alert at all times. If the cyclist feels hampered or restricted in any way by the use of a helmet, this has to distract from his total attention. At the same time, an operator that would ordinarily wear a helmet would be affected in the same manor if he were unable to wear his helmet. We in no part like to discourage the use of a helmet. That is why when factual information from state offices such as DOT and others reflect the use of a helmet may not be as safe as some think, this may be a factor in their choice and they may not be totally at ease with the decision. A rider should be free to make his decision based on his own peace of mind.

Abate of Kansas feels we should direct our attention to education, awareness, and safety to prevent an accident from happening instead of forcing an unpopular law upon the riders to protect them when an accident occurs. Our main objective is to save lives and prevent injuries by educating the rider on abilities and riding straight, make the general motorist aware of the fact that they share the road with motorcycles, and promoting conditions that contribute to safe riding.

Now as for Freedom of Choice. This country was founded on freedom of choice. The different choices we make are what makes us individuals. To remove these choices takes away our individualism.

Every day is filled with a certain amount of risk. Should we decide to take everything that poses a risk away, we would need but one law, Stay In Bed. And even that is questionable. Every sport or activity contains a certain risk. Golfers take a chance on being hit with a ball or getting struck by lightning on a cloudy day. Should there be a law to wear a helmet while golfing or only play on sunny days? This sounds ridiculous, but many individuals that rode in the early years of motorcycling would probably feel bills such as S644 equally ridiculous.

A large portion of today's riders are veterans. Had they decided to keep their lives risk free, they certainly would not have gone to the service. An individual has the freedom of choice to join the military and defend his freedom of choice, but if S644 becomes a law, that same individual may not choose how they ride!!!

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2-25-92

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Through my contact with several Kansas Legislators, most seem to feel there is too much Federal Government on a state level. Some are opposed to the Federal Government, "BLACKMAIL TACTICS". They feel certain decisions should be left at a State level. This should go one step further and certain choices should be left at an individual level.

The Motorcycle Safety Foundation statistics show Kansas as one of the top ten safest states to ride in (1991 Motorcycle Statistical Annual). If this is truly an issue of saving lives and reducing injuries, and not dollars and cents, then let us put our efforts toward preventing accidents.



Dave Mann
President, Abate of Kansas

att. 18
2-25-2

(2-2)

To Whom it may concern

24 FEB 92

This letter is being written in the hopes that our (American Motorcyclists) opinions and feelings will be taken into consideration for the outcome of the proposed mandatory helmet law.

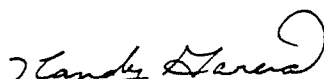
We do not wish to beat a dead horse about the pros and cons of helmet use or non-use, that's an issue that's been hashed over and over by numerous organizations and government representatives.

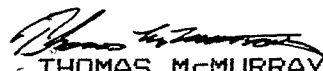
What we are mainly concerned about is the loss of Freedom to choose. Once again, another law is being forced upon us by strong arm government tactics, ie, the withholding of state highway funds.

Collectively, our organization (HAWGS MC) represents over 187 years of active military service. We all joined the service with the belief that we were protecting our country's way of life and freedoms from all foreign enemies, but, it appears that this time the enemy is coming from within.

It's a shame that the freedom we so willingly fight for, and are prepared to die for can be so easily taken away by people that cannot comprehend the meaning of freedom of choice and are not affected by this law.

We realize that we are a minority, however, we sincerely hope that the loss of yet another Constitutional Right is taken into consideration rather than the Monetary gains to be made by the state after the passing of the mandatory helmet law.


RANDY GARCIA
President
HAWGS MC
Kansas


THOMAS McMURRAY
Secretary
HAWGS MC
Kansas

Att. 19
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