

MINUTES OF THE House COMMITTEE ON Transportation

The meeting was called to order by Representative Rex Crowell at
Chairperson

1:30 ~~xxx~~/p.m. on February 14, 1985 in room 519-S of the Capitol.

All members were present except: Representatives Sutter and Adam, excused.

Committee staff present:

Hank Avila, Legislative Research Department
Fred Carman, Office of the Revisor of Statutes
Donna Mulligan, Committee Secretary

Conferees appearing before the committee:

Representative Larry Erne
Mr. David G. Tittsworth, Kansas Department of Transportation
Mr. Robert W. Morrissey, Federal Highway Administration Department

The meeting was called to order by Chairman Rex Crowell, and the first order of business was a hearing on HB-2156 concerning design of highway guardrails.

Representative Larry Erne, sponsor of the bill, briefed the Committee on its contents. (See Attachment 1)

Representative Erne described a personal experience wherein his automobile struck a guardrail while traveling on a highway. Photographs of the damaged vehicle were shown to Committee members. He said he would like to have current safety equipment installed, and current safety standards adhered to when building new guardrails and when replacing end sections on existing guardrails.

Mr. David G. Tittsworth, Kansas Department of Transportation, presented testimony in opposition to HB-2156. (See Attachment 2)

Mr. Tittsworth said KDOT has placed a major emphasis on the elimination of hazardous roadside conditions and on improving the technology of traffic barriers, including guardrails to shield the highway user from those hazards which cannot be eliminated.

Mr. Tittsworth used a chart to demonstrate various designs of guardrails, and said the two most common designs in use today are the Break-Away Cable Terminal and the Turned-Down Break-Away. Mr. Tittsworth pointed out that HB-2156 would not permit KDOT to exercise discretion regarding which guardrail design to use at a given location.

Mr. Robert W. Morrissey, of the Federal Highway Administration, gave testimony in opposition to HB-2156. (See Attachment 3) He said passage of this bill, which would mandate the use of turned down ends on all guardrails installed or replaced in the State, would preclude the use of other acceptable and equally effective guardrail terminal treatments. He also said it would prohibit the possible eventual use of several terminal treatments which are in the developmental stage.

In response to a question, Mr. Tittsworth said that in terms of liability because of design, they are excepted if that design is in conformity with prevailing standards at the time the guardrail was built.

The hearing on HB-2156 was concluded.

CONTINUATION SHEET

MINUTES OF THE House COMMITTEE ON Transportation,
room 519-S, Statehouse, at 1:30 ~~xx~~/p.m. on February 14, 1985.

The next bill taken up was HB-2222, concerning the definition of a motorized bicycle, and Fred Carman briefed the Committee on a proposed amendment to the bill which would make it in compliance with the Uniform Act Regulating Traffic.

A motion was made by Representative Dillon to adopt the provisions of the suggested amendment into the bill. The motion was seconded by Representative Justice. Motion passed.

The motion was made by Representative Dillon to recommend HB-2222 as amended favorable for passage. The motion was seconded by Representative Knopp. Motion passed.

The meeting was adjourned at 2:15 p.m.


Rex Crowell, Chairman

STATE OF KANSAS

LARRY E. ERNE
REPRESENTATIVE, SEVENTH DISTRICT
R.R. # 1
P.O. BOX 882
COFFEYVILLE, KANSAS 67337



TOPEKA ADDRESS
STATE CAPITOL BUILDING
TOPEKA, KANSAS 66612

TOPEKA

HOUSE OF
REPRESENTATIVES

TESTIMONY OF REPRESENTATIVE LARRY E. ERNE

RE: HB 2156

Mr. Chairman

Members of the Committee

HB 2156 is self explanatory.

I had a personal experience on the second day after session last year, that being I placed my car on a guardrail like a scower.

After this accident I started observing the styles of this massive piece of metal that is supposed to save lives. The feds are turning the ends down on their guardrails which would have saved, I believe, serious injury of my County Commissioner.

I understand that DOT has opposition to the bill as written. I agree some amendment needs to be made to get the results that I would like to see. I think the department and I can work out a solution.

Thank you. I stand for questions.

Respectfully Submitted,

Rep. Larry E. Erne

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Attachment (

KANSAS DEPARTMENT OF TRANSPORTATION

STATE OFFICE BUILDING—TOPEKA, KANSAS 66612



JOHN B. KEMP, Secretary of Transportation

JOHN CARLIN, Governor

MEMORANDUM TO: HOUSE TRANSPORTATION COMMITTEE

FROM: DAVID G. TITTSWORTH, CHIEF COUNSEL
KANSAS DEPARTMENT OF TRANSPORTATION

REGARDING: HOUSE BILL 2156

DATE: FEBRUARY 14, 1985

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE, MY NAME IS DAVID TITTSWORTH, I AM CHIEF COUNSEL FOR THE KANSAS DEPARTMENT OF TRANSPORTATION. I AM APPEARING ON BEHALF OF THE DEPARTMENT, TO VOICE OUR CONCERNS WITH HOUSE BILL 2156.

THE KANSAS DEPARTMENT OF TRANSPORTATION HAS AN ONGOING EFFORT TO IMPROVE HIGHWAY SAFETY. TO ACCOMPLISH THIS, A MAJOR EMPHASIS HAS BEEN PLACED ON THE ELIMINATION OF HAZARDOUS ROADSIDE CONDITIONS AND ON IMPROVING THE TECHNOLOGY OF TRAFFIC BARRIERS, INCLUDING GUARDRAILS TO SHIELD THE HIGHWAY USER FROM THOSE HAZARDS THAT CANNOT BE ELIMINATED.

THE DEPARTMENT'S POLICY ON THE USE OF GUARDRAIL SYSTEMS HAS BEEN TO FOLLOW AASHTO GUARDRAIL GUIDELINES. THIS IS DUE IN PART BECAUSE THE FEDERAL HIGHWAY ADMINISTRATION REQUIRES COMPLIANCE WITH SUCH GUIDELINES ON FEDERAL-AID PROJECTS.

IT CANNOT BE OVEREMPHASIZED THAT A TRAFFIC BARRIER IS ITSELF A HAZARD. A CLEAR, UNOBSTRUCTED, FLAT ROADSIDE IS HIGHLY DESIRABLE HOWEVER SUCH CONDITIONS DO NOT ALWAYS EXIST. WHERE ROADSIDE OBSTACLES EXIST PRESENTING A POTENTIAL HAZARD TO THE HIGHWAY USER, THE DEPARTMENT MUST MAKE THE DETERMINATION WHETHER A TRAFFIC BARRIER WOULD REDUCE OR INCREASE HAZARDS AT THE GIVEN LOCATION.

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Attach. 2

ONCE THE DECISION HAS BEEN MADE IN FAVOR OF A TRAFFIC BARRIER, THE DEPARTMENT MUST CHOOSE THE APPROPRIATE DESIGN FROM ANY ONE OF APPROXIMATELY ELEVEN AASHTO DESIGNS. IN SELECTING A DESIGN, THE GEOMETRICS OF THE LOCATIONS GREATLY AFFECT THE DESIGN SELECTION.

THE TWO DESIGNS MOST COMMON IN USE TODAY ARE THE BREAK-AWAY CABLE TERMINAL (TYPE I) AND THE TURNED-DOWN BREAK-AWAY (TYPE III). (CHART)

THE TYPE III GUARDRAIL EVOLVED OUT OF A DESIGN REFERRED TO AS THE "TEXAS TURNDOWN". THE INTENT OF THE ORIGINAL DESIGN WAS TO HAVE THE IMPACTING VEHICLE FORCED BACK ONTO THE ROADWAY BY THE SLOPING RAIL DESIGN. THE SLOPING RAIL WAS FIRMLY BOLTED TO ACCOMPLISH THIS PURPOSE. THE EXPERIENCE WITH THIS DESIGN WAS NOT FAVORABLE. VEHICLES RIDING UP ONTO THE RAIL WERE VAULTED BACK INTO THE OPPOSITE LANE OR WERE FLIPPED UPSIDE-DOWN.

MODIFICATIONS TO THE ORIGINAL DESIGN RESULTED IN THE PRESENT TYPE III DESIGN. THIS DESIGN DIFFERS FROM THE ORIGINAL DESIGN IN ITS USE OF RETAINER CLIPS VS. BOLTS. THE CLIPS RETAIN THE SLOPING RAIL BUT ARE DESIGNED TO GIVE WHEN A VEHICLE RIDES UP ON THE RAIL. VAULTING AND FLIPPING ARE THUS REDUCED, IF THE CLIPS FUNCTION PROPERLY. ONE OF THE PROBLEMS WITH THIS DESIGN OF GUARDRAIL IS THAT THE CLIPS MUST FUNCTION FOR A WIDE RANGE OF VEHICLE WEIGHTS.

THE TYPE I DESIGN DOES NOT CREATE THE POTENTIAL FOR VAULTING OR FLIPPING LIKE THE TYPE III DESIGN. THE DESIGN OF THIS GUARDRAIL EMPLOYES A CABLE DESIGNED TO RETAIN THE END PIECE OF GUARDRAIL IN ONE PIECE IN CASE OF A VEHICULAR IMPACT THEREBY REDUCING THE LIKELIHOOD OF THE VEHICLE BECOMING IMPALED UPON THE GUARDRAIL.

THE TYPE III DESIGN IS USED IN THOSE LOCATIONS WHERE AVAILABLE HIGHWAY RIGHT OF WAY DOES NOT PERMIT USE OF THE TYPE I DESIGN. HOUSE BILL 2156 WOULD NOT PERMIT THE DEPARTMENT TO EXERCISE THIS DISCRETION; A DISCRETION WHICH I WOULD POINT OUT, IS DEPENDENT UPON THE GEOMETRICS OF THE GIVEN LOCATION, AVAILABLE DESIGN GUIDELINES AND PROFESSIONAL ENGINEERING JUDGMENT.

MR. CHAIRMAN THAT CONCLUDES BY PREPARED REMARKS. I HAVE ATTACHED TO MY TESTIMONY SEVERAL TECHNICAL CONCERNS RELATIVE TO THE BILL, FOR CONSIDERATION BY THE COMMITTEE. I AM AVAILABLE FOR QUESTIONS.

ATTACHMENT

THE BILL MAKES REFERENCE ON LINE 24 TO "HIGHWAY". THE DEPARTMENT IS UNCLEAR WHETHER THE SCOPE OF THE BILL IS INTENDED TO ADDRESS ALL PUBLIC ROADWAYS INCLUDING COUNTY HIGHWAYS AND ROADS AND CITY STREETS.

THE BILL PROVIDES THAT GUARDRAIL BE "... IN ACCORD WITH SPECIFICATIONS IMPOSED OR SUPPLIED BY THE KANSAS DEPARTMENT OF TRANSPORTATION ..." THERE IS SOME QUESTION WHETHER IT IS THE INTENT FOR THE DEPARTMENT TO PROVIDE SPECIFICATIONS TO LOCAL ENTITIES.

THE BILL REFERENCES ON LINE 24, "SPECIFICATIONS" OF AASHTO. TECHNICALLY, AASHTO DOES NOT PROVIDE GUARDRAIL SPECIFICATIONS, ONLY GUIDELINES.



U.S. Department
of Transportation
Federal Highway
Administration

Region 7
Iowa, Kansas,
Missouri, Nebraska

1445 North 17th Street
Washington, D.C. 20587

February 13, 1985

House Bill No. 2156
Guardrail Installation and Replacement

Mr. John B. Kemp
Secretary of Transportation
Kansas Department of Transportation
Topeka, Kansas 66612

Dear Mr. Kemp:

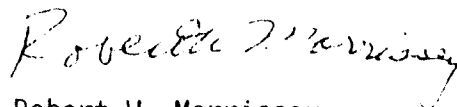
The FHWA has reviewed HB 2156 from the Kansas Legislature. The following comments are offered.

The bill fails to specify whether it is discussing Safety Beam Guardrail ("W" Beam Guardrail), Cable Guardrail, Box Beam Guardrail, or Thri-Beam Guardrail. Turned down terminals are not effective on all guardrail types nor at all locations.

The passage of this bill, which would mandate the use of turned down ends on all guardrails installed or replaced in the State, would preclude the use of other acceptable and equally effective guardrail terminal treatments. It would also prohibit the possible eventual use of several terminal treatments which are in the developmental stage.

We note with interest the Legislature's concern for existing highway safety hardware; however, we believe the proposed bill to be too restrictive for the overall continued enhancement of safety on the State's roads and streets.

Sincerely yours,



Robert W. Morrissey
Division Administrator

2/14/85
Attachment 3