MINUTES

MONTANA SENATE
53rd LEGISLATURE - REGULAR SESSION

COMMITTEE ON HIGHWAYS & TRANSPORTATION

Call to Order: By Senator Cecil Weeding, Chair, on March 4, 1993, at 3:08 p.m.

ROLL CALL

Members Present:
Sen. Cecil Weeding, Chair (D)
Sen. Betty Bruski-Maus, Vice Chair (D)
Sen. John Harp (R)
Sen. Francis Koehnke (D)
Sen. Doc Rea (D)
Sen. Spook Stang (D)
Sen. Chuck Swysgood (R)
Sen. Henry McClernan (D)
Sen. Daryl Toews (R)
Sen. Larry Tveit (R)

Members Excused: None.

Members Absent: None.

Staff Present: Tom Gomez, Legislative Council
Beth Satre, Committee Secretary

Please Note: These are summary minutes. Testimony and discussion are paraphrased and condensed.

Committee Business Summary:

Hearing:	HB 232, HB 565, HB 295, HB 337,
Executive Action:	HB 295, HB 232, HB 565, SB 417, HB 256, HB 281, HB 294, HB 337

HEARING ON HOUSE BILL 232

Opening Statement by Sponsor:
Rep. Clark, House District 31, said HB 232 would require truck and truck tractors manufactured after July 25, 1980 to have operable front brakes.

Proponents' Testimony:
Colonel Bob Griffith, Montana Highway Patrol, said **Rep. Clark** consented to sponsor HB 232 at the urging of the Montana Highway Patrol. He stated HB 232 would bring state laws into compliance with those federal regulations applicable to commercial trucks. He added that the trucking, logging and agricultural industries

had been informed of HB 232's contents and no one had any objection. He added that the trucking industry spoke in support of HB 232 at the House hearing.

Opponents' Testimony: None.

Informational Testimony: None.

Questions From Committee Members and Responses:
SEN. TVEIT asked if HB 252 would require that all trucks manufactured after July 25, 1980 have brakes on all axles. **Rep. Clark** replied yes.

SEN. TVEIT asked if HB 252 would make breaks mandatory on "push" or "lift" axles. **Rep. Clark** replied no; HB 252 applies only to front wheel brakes on truck tractor units. He noted that many people have disconnected their front brakes because they felt they had better control without them. He added, however, that numerous studies have proven that disconnecting the front brakes does not necessarily improve the driver's control over the vehicle.

SEN. KOEHNKE asked how the July 1980 date had been determined. **Rep. Clark** replied all truck tractor units were manufactured with front brakes after July 25, 1980.

SEN. HARP asked if HB 252 would affect only those vehicle units which have a gross vehicle weight (GVW) of over 26,100 pounds. **Rep. Clark** replied HB 252 addresses only those truck tractor units in excess of that weight.

CHAIRMAN WEEDING asked if trucks were required to have anti-lock brakes. **Colonel Griffith** replied that anti-lock brakes were not required by law.

Closing by Sponsor:
Rep. Clark closed and stated that **SEN. STANG** had agreed to carry HB 252 on the Senate floor.

HEARING ON HOUSE BILL 565

Opening Statement by Sponsor:
Rep. Wyatt, House District 37, said HB 565 is a relatively simple but fun and historically important bill for parts of eastern Montana. She explained HB 565 would identify and designate the Charles M. Russell Trail which would run between the towns of Lewistown, Utica, Stanford, Belt and Great Falls. She stated the trail would involve the historical importance of Charles Russell and his paintings to the subject matter of that section of Montana. She stated the Charles M. Russell trail would be important for Montana's developing tourism industry. She noted

the Montana Historical Society supports the trail. **Rep. Wyatt** noted that many members of the local chambers of commerce between the two areas, the city of Great Falls and possibly Stanford will provide signage for the trail. She added that the Montana Historical Society has also designated $3,000 for interpretive signs.

Proponents' Testimony:
Gloria Hermanson, Montana Cultural Advocacy, explained her organization is state-wide and is interested in all things cultural. She added the Historical Society is a member of the Montana Cultural Advocacy. She expressed the full support of her organization and the Montana Historical Society for HB 565.

Nancy Korizek, Marketing Director of Travel Montana, Department of Commerce, expressed her agency's support of HB 565.

Opponents' Testimony: None.

Informational Testimony: None.

Questions From Committee Members and Responses:
SEN. MCCLERNAN asked the sponsor how the trail had managed to get $9,400 for development purposes. He noted that Butte had not been treated so generously in conjunction with their cultural heritage project. **Rep. Wyatt** replied she was "appreciative, awed and pleasantly surprised" that the project had received that support. She added, however, she was unsure that the $9,400 figure was accurate since that support was granted not in dollars but in terms of gasoline, and other necessities.

CHAIRMAN WEEDING asked the sponsor if she would object to an amendment which would extend the trail to the Charles Russell Wildlife Range. He noted that would include Jordan, his home town, but added he thought that the inclusion of the Charles Russell wildlife range was appropriate. **Rep. Wyatt** agreed that the amendment was appropriate and added she had no objections if **CHAIRMAN WEEDING** promised to "nurture HB 565 through the Senate process".

Closing by Sponsor:
Rep. Wyatt stated she hoped HB 565 had the Committee's support. She encouraged the committee members to join the Great Falls delegation on March 10 to see the Charles M. Russell Museum in Great Falls.

HEARING ON HOUSE BILL 295

Opening Statement by Sponsor:
Rep. Foster, House District 32, said during the 1991 Legislative Session, the Legislature adopted a measure allowing the reduction of speed limits close to schools or school crosswalks which are next to highways for reasons of public safety. He stated HB 295

would make it possible to reduce speed limits when a senior citizen center is next to a highway. He stated if the children of our state are going to be protected, it is only right to protect the elderly as well. **Rep. Foster** said HB 295 specifically addressed the traffic situation in the town of Neihart which is located in his and **SEN. KOEHNKE's** district. **Rep. Foster** explained that the speed limit in Neihart has long been a source of trouble for town residents. He stated HB 295 is the best means to solve the problems in Neihart since the Department of Transportation (DOT) had done nothing to address the speed limit issue despite numerous request and complaints. He noted that DOT had apparently started some study to look into changing speed limits at Neihart, but added he found it rather coincidental that the study had been started about the same time HB 295 had been requested.

Rep. Foster stated he felt strongly that it is in the best interests of the public to have a speed limit near senior citizens centers. He noted HB 295 would be applicable all over Montana, however, he did not think too many instances existed where HB 295 would actually apply. He stated he was convinced HB 295 was a good idea because DOT had never adequately addressed the situation in Neihart, and HB 295 would force them to do it. He concluded by urging the Committee to pass HB 295 in the interest of public safety.

Proponents' Testimony:

A.J. Buskirk, Neihart Mayor, stated the people of Neihart strongly support HB 295. He said Neihart citizens had been attempting to get the speed limits in their town reduced and to get some help enforcing those limits, with no luck. He said since the House hearing on HB 295 one dog had been killed, two dogs run over, and a patrolman from Cascade County had been clocked at 54 mph in the middle of town. He stated motorists driving through Neihart do not pay any attention to their surroundings. He commented that Neihart's situation is unique in Montana; eight houses are located 40 feet from the highway's center line where the speed limit is 50 mph. He stated that highway gets a lot of truck traffic and noted there are two fairly blind approaches to the senior citizen center which gets steady used by Neihart many residents. He added the speed limit by the senior citizen center is 40 mph. He concluded HB 295 could save a life on the highway.

Francis Wright, Neihart Town Council Member, stated that the town council fully supports HB 295. He explained the town council believes a 40 mph speed zone by the Neihart Senior Citizen Center is dangerous and presents a safety problem for the seniors and the town of Neihart.

J.D. "Sonny" O'Neill, Neihart Resident, said he lives in one of the houses where the front porch is only 40 feet from the highway center line. He stated that last summer the highway was widened

two feet on each side and now it is necessary to walk on the highway to get downtown because there are swamps and creeks right off the edge of the road. He told the Committee that walking the white line on the edge of the highway and having cars zipping by at 55 mph is not a pleasant experience. He stated DOT had done a traffic study three weeks ago, and between 8 a.m. and 9 a.m., 112 cars came through town. He added the traffic is just as bad in the summertime.

Donalene O'Neill, Neihart Resident, said she had property in Neihart and stated the traffic problem in Neihart is "terrifically bad". She stated she had "almost gotten knocked in the head with one of the mirrors of an eighteen wheeler going 55 mph". She told the Committee that someone was going to be killed crossing the street in front of the senior citizens center if the situation remains the same.

Charles Bartl, Neihart Resident, said he also lived where the houses are so close to the highway. He noted that the only place to park, if the road is clear and the snow is piled back far enough, is along the edges of the highway or in the driveway. He added that parking in the driveway makes it necessary to back into 55 mph traffic at a point where there is a corner in the highway. He stated DOT judges speed limits by the number of accidents in the area. He added, however, he felt it was better to prevent those accidents.

Glenna Wortman-Obie, AAA Montana, spoke from prepared testimony in support of HB 295 (Exhibit #1).

Opponents' Testimony:
Don Dusek, Traffic Engineer, DOT, read a statement in opposition to HB 295 (Exhibit #2). He also distributed copies of the article "Traffic Engineering--Myths and Realities" to committee members (Exhibit #3).

Dave Johnson, Traffic Engineer, DOT, passed out a paper on "Driver Speed Behavior on U.S. Streets and Highways" (Exhibit #4), and a chart which showed the effect of raising and lowering speed limits on actual motorist speeds (Exhibit #5). He said he was a member of the National Committee of the Institute of Transportation Engineers (ITE), which is the professional organization of transportation engineers in the country. He informed the Committee he had been working on a national committee for the last five years which has just finished drafting a national policy concerning speed zones. He referred to the chart (Exhibit #5) and stated changing the numbers on a speed zone sign does not change the traffic speed. He explained the actual traffic speed is established by the motorists and said 85 percent of the drivers are accurate judges of the safe and reasonable speed for that stretch of road. He added the other 15 percent are either unable or unwilling to accept that speed.

Dave Johnson said in conjunction with the ITE study, the national committee executed engineering studies in 26 states and conducted a public opinion and procedures questionnaire in 6 states, including Montana. He said the questionnaire was sent to 26 counties and 25 cities in Montana and all but two counties and two cities responded. He explained that after evaluating the public input as to what Montanans expected from speed zones in theirs and neighboring towns, Montana fit into the national norm. He stated if concerns other than speed zone problems exist, they should be directly dealt with case by case. In reference to Neihart, he hoped the Committee would let DOT work on the senior citizen center problem and not try to resolve it with blanket legislation which would provide an inappropriate solution.

Informational Testimony: None.

Questions From Committee Members and Responses:
SEN. HARP referred to **Dave Johnson's** comment asking that DOT be given the chance to work with the senior citizens group and not burdened with additional requirements in MCA 61-8-310. **SEN. HARP** then asked if DOT would simply erect two 25 mph signs in Neihart. **Dave Johnson** replied DOT is currently in the process of conducting a complete engineering study, including a speed zone study, for Neihart. He stated all the data has not been evaluated, but added the speed zone would be set at an engineering level near the 85 percentile. He added that speed would most likely be faster than 25 mph.

SEN. HARP said in 1991, the Legislature decided that local governments could establish a speed limit at a speed under the 85 percentile. He added that was a policy decision, and HB 295 would simply amend that existing law. He commented that DOT had presented the same testimony in 1985 and 1991, which centered around arguments why the 85 percentile should remain the deciding factor in establishing speed limits. He stated those arguments are now moot, because state law recognizes that local governments may and shall alter speed limits. **SEN. HARP** again asked about the chances to get 25 mph signs erected in Neihart.

Dave Johnson verified the change in statute, to which **SEN. HARP** had referred. He said the speed zone procedure also set by statute requires that speed zones be established on the basis of an engineering study. He explained if HB 295 were adopted, the local jurisdiction could request that the speed limit be lowered in conjunction with the amendment to existing statute HB 295 would represent.

SEN. HARP said the local jurisdiction can request that the speed limit be set at 80 percent of the 85 percentile, or the reasonable speed, set by highway engineers. He stated he understood the engineering studies and what they were intended to accomplish, but added local authority now supersedes the authority of those studies. **SEN. HARP** asked if DOT could just put up signs in Neihart rather than forcing the Legislature to

amend existing statute with HB 295. **Dave Johnson** stated just putting up those signs would be illegal; the speed zone statute requires that DOT establish speed zones on the basis of an engineering study.

SEN. HARP responded HB 295 needs to be adopted to address this problem.

SEN. MCCLERNAN asked what Neihart's legal speed limit was. **Mayor Buskirk** replied he lived within the city limits on the southwest side of town and by his house the speed limit is 50 mph. He stated the speed limit "breaks down" to 40 mph after the group of eight houses located on the southwest side of town, and remains at that speed the rest of the way through Neihart. He added the 85 percentile argument that people do not pay any attention to signs does not make sense. He stated he drove from Neihart to Helena and acknowledged all the signs.

After referring to the 85 percentile discussion, **SEN. BRUSKI-MAUS** asked if a 75 mph speed limit in eastern Montana on the interstate would be safer than the current speed limit of 65 mph. **Don Dusek** replied it was his professional opinion that if traffic data indicated that 85 percent of the traffic stream wanted to travel at 75 mph and DOT erected a 75 mph speed limit sign making that speed reasonably within the public's perception of voluntary compliance, traffic would tend to concentrate at the same levels. He stated a 75 mph speed limit could very well create a safer driving condition under those criteria. He noted, however, the federally mandated speed limit on Montana's interstate and private highway systems is related to energy conservation more than traffic safety.

SEN. BRUSKI-MAUS asked if statistics had proven that driving 65 mph is safer than driving faster speeds. **Don Dusek** replied he had not seen anything which definitively proved that the 55 or 65 mph speed limit had improved traffic safety. He explained that under the 55 mph speed limit on the interstate highway system, the typical 85 percentile highway speeds were between 62 and 68 mph depending on the area. He stated the increase on the interstate highway system to 65 mph has not affected the 85 percentile; it is still between 63 to 67 mph. He stated motorists drive interstate highways based on other considerations: it is access controlled; the right-of-way is very large; there are no direct intersection points. He added, the design of the facility and the type of traffic which uses interstate systems makes those systems safer.

CHAIRMAN WEEDING asked if **Don Dusek** had not suggested that if the interstate speed limit was posted at 75 mph, that the traffic would increase to that speed. **Don Dusek** replied he had said if collected data showed that 85 percent of the traffic wanted to drive on that roadway at 75 mph or less, he would recommend instituting a 75 mph speed limit, and could expect that the motorists would comply with that speed limit. He stated the 85

percentile speed limit identifies the speed of the travel stream for motorists and allows law enforcement to know that motorists who drive faster are typically people who do not want to drive prudently.

CHAIRMAN WEEDING asked if **Don Dusek** thought signing a road had any effect on that 85 percentile. **Don Dusek** replied that research studies in Montana and all over the nation show that signs very seldom have any effect on traffic speed.

SEN. STANG said that recently some roads in his district had been redesigned and rebuilt, and during that process DOT had changed the angle parking and restricted accesses to the street. He stated the road going through Neihart had just been repaved and redesigned. He asked why the traffic problems had not been considered and fixed at that time. **Don Dusek** replied he was not too familiar with the Neihart project. He said the project was essentially a minor widening overlay pavement restoration project, and was not a project that was scheduled for the reconstruction of the roadway. He stated the corridor through Neihart is extremely narrow and to do anything regarding restricting approaches or redesigning the road would mean major reconstruction.

SEN. STANG asked what standard right-of-way from the center line DOT requires to build a road. **Dave Johnson** replied that DOT's policy has changed. He explained DOT used to establish right-of-way by "taking a standard number of feet from the section line", he added, however, that currently only the amount of right-of-way necessary for the actual construction of the roadway is taken.

SEN. STANG commented DOT had informed the people in his district that they had to comply with the federal standards, which meant they needed somewhere between 60 to 80 feet right-of-way in order to correctly construct the slope. **Dave Johnson** said compliance with the national standards for flat slopes the right-of-way usually amounts to about 75 to 80 feet. He added the necessary right-of-way would also depend upon the width of the planned roadway.

SEN. TVEIT referred to the comment that the road through Neihart was a narrow corridor. He asked that the statement be clarified. **Don Dusek** replied that the road through Neihart is between 28 to 30 feet wide, but added his comment pertained to the restricted environment in which the roadway was built.

Referring to the percentile of normal traffic speed, **SEN. TVEIT** asked where safety would lie in the narrow corridor around Neihart if it did not make any difference whether signs were erected. **Don Dusek** responded the philosophy of using the 85 percentile assumes that the majority of motorists are aware of the environment around them and are diligent about driving safely. He explained that 85 percentile speed is the first measure of a safe speed limit. He added that 85 percentile speed

is entered into a study, and the accident rate over a 12 month period is studied in order to determine whether accident clusters or accident trends exist in the area which need to be addressed. He added that parking needs are also assessed as are the needs of pedestrians and then addressed by different means.

Referring to HB 295, **SEN. REA** said the language grants local authorities the authority to decrease speed limits in urban districts to 15 mph and 25 mph around schools or senior citizens centers. He asked if that could be clarified. **Don Dusek** replied that portion of HB 295 addresses roadways under the jurisdiction of the local authorities, not under the jurisdiction of the Highway Commission. He explained the last Legislature decided that a 25 mph speed limit could be established in school zones on roads within the jurisdiction of the Highway Commission. He stated the road which goes through Neihart is a primary road eligible for federal funds and is under the jurisdiction of the Highway Commission.

CHAIRMAN WEEDING noted **Dave Johnson** had suggested there were other alternatives besides HB 295 that could resolve the issue of accessing the senior citizen center in Neihart. **CHAIRMAN WEEDING** asked that those alternatives be identified. **Dave Johnson** replied Neihart's problem might not be addressed by resigning the town. He noted that **Don Dusek** had discovered there were many cars parked on the highway which blocked visibility and forced pedestrians to walk on the highway. **Dave Johnson** said that more off-road parking would help alleviate the problem in Neihart. **Don Dusek** stated Neihart's parking situation was dangerous; on the south end of town there is parking on the highway and driveway approaches which make it difficult for people to get out into the roadway and reduces visibility. He stated DOT had not made any decisions regarding the problem, but added any final plan would address the parking areas in Neihart.

SEN. MCCLERNAN stated any situation where people have to back out of their property onto the highway in a 40 mph speed zone is entirely inappropriate. **Don Dusek** replied the problem could be alleviated if the roadway is opened up so that motorists could see people who are pulling out into the roadway and react to their presence. He stated 40 mph is the speed at which the prudent motorist is driving through Neihart. He added DOT had investigated the accidents in the area and over a three year period there was two vehicle accidents in the entire community.

SEN. KOEHNKE asked if the snow also presented a safety problem in Neihart. **Mayor Buskirk** replied the snow is a big factor. He added that people park on either side of the street downtown, which makes the road so congested that there is no place except the highway to walk.

Closing by Sponsor:
Rep. Foster said the DOT representatives had correctly identified that the real issue in HB 295 is public safety. He added,

however, their testimony did not address the concerns of the people who actually live and walk in those speed zones. He stated common sense dictates that Neihart's problem can be easily fixed with HB 295. He informed the Committee that both the **Montana Senior Citizens Association** and **Alec Hansen, Association of Montana Cities and Towns** had hoped to testify on behalf of HB 295. **Rep. Foster** stated **Alec Hansen** had been working with Mayor Buskirk and Neihart residents for some time and would have informed the Committee how impossible it has been to convince DOT to listen to the concerns of Neihart residents. He stated if HB 295 does not pass, he doubted DOT would address the problem in a manner which would truly resolve the issue in Neihart.

HEARING ON HOUSE BILL 337

Opening Statement by Sponsor:
Rep. Brown, House District 72, said HB 337 would establish a non-resident off-highway vehicle (OHV) permit. He stated that currently any OHV riders who currently reside in a state which does not have a reciprocity agreement with Montana cannot legally operate an OHV in Montana. He explained this permit places both the Forest Service (FS) and Fish, Wildlife & Parks (FWP) into a difficult position, because they have to enforce the statute heavy handedly or not at all. He stated HB 337 would alleviate this situation. **Rep. Brown** informed the Committee that a House amendment would deposit the fees collected according to MCA 23-2-804, which is FWP's off-road trail program. He explained 50 percent of that money would be allocated for off-highway vehicle safety education training programs and the other 50 percent would go back into the forests. He stated the number of non-resident applications, 600, was derived from warnings issued by FWP and the FS per year. He concluded HB 337 would allow non-residents who want to ride OHVs to do so legally.

Proponents' Testimony:
Linda Ellison, Montana Trail Vehicle Riders Association (MTVRA), stated MTVRA had been approached by its Glendive and Billings chapters to sponsor this legislation, and added the current situation also presents problems along the Canadian border. She said Montana statute requires that OHVs which are used for recreation be registered in Montana. She added, however, the statute provides no mechanism to accommodate out-of-state riders.

Linda Ellison said HB 337 would provide a non-resident permit which would, at the discretion of FWP, be available at more appropriate times and places. She added these permits would be valid for an entire year. She noted HB 337 borrows language from the snowmobile statute and would enable non-resident riders to comply with the law.

Doug Abelin, Capitol Trail Vehicle Riders Association, CTVRA, stated HB 337 is necessary and would be helpful and beneficial in relations between the different states and OHV groups.

Bob Walker, Trails Coordinator, FWP, expressed FWP's support of HB 337.

Opponents' Testimony: None.

Informational Testimony: None.

Questions From Committee Members and Responses:
SEN. STANG asked what the price of the registration fee per resident was. **Linda Ellison** responded the fee would be $5 and would apply only to OHVs. **SEN. STANG** asked if there would be an advantage for a resident to claim non-resident status. **Linda Ellison** responded if residents tried to do that and were discovered, they would be subject to a large fine. She stated there would be no advantage to inappropriately claiming non-resident status.

SEN. TVEIT asked where the permits would be purchased. **Rep. Brown** responded the permits would be available at any of the normal outlets where other FWP licenses and permits can currently be purchased. He added an official might show up at the site of OHV events to sell permits.

SEN. TVEIT said the permits would need to be available at hardware stores in eastern Montana, because no other place would provide ready access other than at OHV events. **Linda Ellison** responded FWP is also considering allowing wardens to dispense the OHV permits. She stated that once the outlets are specified the OHV community could put that information in the out-of-state resident packets. She stated the people receiving those packets would be the people HB 337 would primarily affect, and added they would then be informed about where they could purchase their permits.

SEN. STANG asked if FWP was intending to ask licensed agents to sell permits. **Bob Walker** replied that the game wardens would be making them available. He added that FWP "would be looking into its outlets".

SEN. STANG asked if dealers or license agents would be compensated for selling OHV non-resident permits. **Bob Walker** replied that "no process at this point and time existed for dealer compensation".

SEN. TOEWS asked if FWP had considered exempting out-of-state people from the permit regulation. He stated that would be a simpler process. **Rep. Brown** replied HB 337 would affect only a very small group. He added HB 337 would enable FWP to collect another $3,000 for safety education and trail programs. He stated if non-residents were exempted from the permit requirement, many more people might want to come to Montana to recreate. He stated HB 337 would facilitate a legal way for those folks coming into Montana to participate in an event or to recreate.

SEN. MCCLERNAN asked if HB 397 would address riding lawn tractors. **Rep. Brown** replied no, just motorcycles.

Closing by Sponsor:
Rep. Brown said HB 337 was patterned after the snowmobile law which does the same thing for non-resident snowmobilers. He stated the majority of these OHV permits would be sold by FWP officials at events, and would not create an undue burden for local retailers who sell other licenses and permits. He informed the Committee that **SEN. FORRESTER** would carry HB 337 on the Senate floor if the bill gained the Committee's approval.

EXECUTIVE ACTION ON HOUSE BILL 337

Motion/Vote:
SEN. SWYSGOOD moved HB 337 BE CONCURRED IN. The MOTION CARRIED WITH **SENATORS STANG** and **TOEWS** voting NO. **SEN. FORESTER** will carry the bill on the Senate floor.

EXECUTIVE ACTION ON HOUSE BILL 295

Motion/Vote:
SEN. KOEHNKE moved HB 295 BE CONCURRED IN. The MOTION CARRIED UNANIMOUSLY. **SEN. KOEHNKE** will carry the bill on the Senate floor.

EXECUTIVE ACTION ON HOUSE BILL 232

Motion:
SEN. TVEIT moved HB 232 BE CONCURRED IN.

Discussion:
SEN. SWYSGOOD asked if anyone had testified in opposition to HB 232. **CHAIRMAN WEEDING** replied no. He added that HB 232 would only require that all trucks manufactured after July 25, 1980 have functional front brakes.

SEN. REA asked if trucks did not have them prior to that date. **SEN. SWYSGOOD** said many tractors were made without front wheel brakes. He asked if there was a particular reason to select 1980 as the cut off date. **SEN. KOEHNKE** replied the trucks manufactured before that date did not have front brakes.

SEN. SWYSGOOD asked if after July 25, 1980 all trucks were manufactured with front wheel brakes. He stated the Committee should verify that the date corresponded with the equipment being operated in Montana before taking executive action on HB 232. He stated having to install front brakes on these vehicles would

entail having to install new axles and drums which would be very costly.

SEN. TVEIT said the sponsor had said that manufacturers started installing front brakes in all trucks after that date.

SEN. SWYSGOOD asked if buyers had an option after July 1980 to buy equipment either with or without front wheel brakes. **Dave Galt** said he did not know. **Doug Abelin** said he had worked in the oil fields for about 20 years and yes, they did had that option. He suggested "grandfathering in" vehicles which were purchased without front wheel brakes.

SEN. SWYSGOOD said that was his concern. He stated all trucks are now manufactured with front wheel brakes, but he distinctly remembered a period when those brakes were optional. **Ben Havdahl, Montana Motor Carriers Association (MMCA),** verified **SEN. SWYSGOOD's** statement.

SEN. SWYSGOOD said he was concerned that some of those trucks on which the front wheel brakes were optional were manufactured in 1980 or since then.

CHAIRMAN WEEDING suggested the Committee defer action on HB 232 to give **SEN. SWYSGOOD** the chance to investigate that matter.

SEN. REA asked what size trucks would HB 232 address. **Dave Galt** stated HB 232 addressed trucks which are considered commercial vehicles by the federal motor carrier safety regulations. He noted the intent of HB 232 was to bring Montana's statutes into compliance with those federal regulations.

SEN. SWYSGOOD commented that many motor carriers had felt that front wheel brakes increased the possibility of sliding or jack-knifing on slippery roads. He noted he was unsure if that had been proved or disproved, but added that many motor carriers had opted not to have front wheel brakes. He said the Federal Highway Safety Act has made those brakes a requirement.

Ben Havdahl noted that Montana has adopted the updated, latest version of the Federal Motor Carrier Safety Regulations by reference. He explained current statute does not reflect that and Montana is put in a position where the statute and the regulations do not conform with one another. He said the language in HB 232 would correct that conflict. He noted HB 232 was initially killed in the House, but was reconsidered because of the fact that Montana is between the regulations and the statute.

DISCUSSION ON POSSIBLE LEGISLATION

Discussion:
CHAIRMAN WEEDING recognized **Doug Abelin** who had asked for the opportunity to inform the Committee about the progress being made on the bill concept he had presented on February 20, 1993.

Doug Abelin said this bill was not an "alternative helmet bill", but a method to dispose of the safety funds which the death of that bill created. He explained the OHV community had developed a safety bill and felt that it could be adapted to include an educational program for the entire state by using some of the funds from the helmet law. He said he had worked with **Al Goke** of the Highway Traffic Safety Program and FWP and together they had developed a safety program. He said this concept has been approved as an appropriations bill with the funding **Al Goke** has authorized, but added that the safety portion of the bill would not be enacted until the federal funds become available. He concluded that the bill's text was being finalized.

EXECUTIVE ACTION ON HOUSE BILL 565

Discussion:
CHAIRMAN WEEDING asked if the Committee had any objection to an amendment which would extend the Charles M. Russell Trail to the CM Russell Wildlife Refuge. He said it seemed logical that the CM Russell Trail should connect with the CM Russell Wildlife Refuge. No objection was raised.

EXECUTIVE ACTION ON SENATE BILL 417

Motion:
SEN. MCCLERNAN moved SB 417 DO PASS.

Discussion:
CHAIRMAN WEEDING quickly reviewed the content of SB 417.

SEN. STANG stated the fiscal note has an assumption of a $200 tax liability, but on page three, line seven a $1,000 tax liability is cited. He asked if the Committee had considered an amendment.

SEN. MCCLERNAN withdrew his motion.

Motion/Vote:
SEN. STANG moved to AMEND SB 417 to replace the figure of $1,000 tax liability on page three, line seven with $200. The MOTION CARRIED UNANIMOUSLY.

Motion/Vote:
SEN. MCCLERNAN moved SB 417 DO PASS AS AMENDED. The MOTION CARRIED UNANIMOUSLY.

EXECUTIVE ACTION ON HOUSE BILL 256

Motion:
SEN. BRUSKI-MAUS moved HB 256 BE CONCURRED IN.

Discussion:
CHAIRMAN WEEDING explained HB 256 would allow disabled veterans to choose which military license plate they would like to purchase for the $5 fee currently charged for the disabled veteran's license plates.

SEN. STANG said disabled veterans could only buy one set of license plates for that $5 fee.

Vote:
The MOTION CARRIED UNANIMOUSLY. **SEN. BRUSKI-MAUS** will carry HB 256 on the Senate floor.

EXECUTIVE ACTION ON HOUSE BILL 281

Motion:
SEN. SWYSGOOD moved HB 281 BE CONCURRED IN.

Discussion:
SEN. TOEWS stated he did not understand why snowmobilers should be required to report the smaller accidents if a snowmobiler just runs into a tree in the middle of nowhere. He said HB 281 was a "poor bill".

SEN. STANG stated the only good provision in HB 281 was the registration of the snowmobiles. He stated he did not believe that driving under the influence (DUI) enforcement in snowmobiling or report accidents was necessary because snowmobiles have policed themselves over the years. He noted that only three or four alcohol related injuries involving snowmobilers had been reported in the last "ten or twenty years". He said snowmobilers have a good record and stated his belief that everything did not have to be legislated. He added the people with whom he had discussed HB 281 did not think it was necessary.

CHAIRMAN WEEDING noted that two of the proponents of HB 281 were presidents of the two snowmobile associations.

SEN. SWYSGOOD said HB 281 contained some good provisions. He said he had anticipated **SENATORS' STANG** and **TOEWS** concerns and would like to offer some amendments which would address them.

Ken Hoovestol, Montana Snowmobile Association, said the language which was causing the problems was not from the snowmobile associations. He informed the Committee that FWP had asked that language addressing DUI be included HB 281 and he had agreed. He expressed his willingness to accept any amendment which would reduce the restrictions. He explained that the snowmobiling community had concerns about possibly overzealous enforcement officers.

SEN. SWYSGOOD outlined the four amendments he would like to offer for HB 281 (Exhibit #6).

CHAIRMAN WEEDING noted that the Trial Lawyers Association had also raised some concern about the liability provisions in section 11. **SEN. SWYSGOOD** said he did not want to address that issue.

Ken Hoovestol said he had found reason why the word "death" had been stricken from HB 281. He stated legally the term "injury" includes death, so "death" was removed because it was unnecessary.

SEN. SWYSGOOD said he thought HB 281 corrected the issue of liability by providing that all parties involved in an accident bear some of the responsibility if they are partially responsible. He said current statute provides that the snowmobilers bears all the fault. **CHAIRMAN WEEDING** agreed that the concept of collateral liability was also just.

SEN. STANG said the other concern the Trial Lawyers had raised was in reference to "risks inherent to the sport". He explained that **Russell Hill, Montana Trial Lawyers Association,** had talked about poor visibility and the snowmobiler not being liable. **SEN. STANG** noted that poor visibility because of snowfall is a risk inherent to the sport. He added he did not think section 11 needed to be changed.

SEN. SWYSGOOD withdrew his motion that the Committee concur in HB 281. He asked if the Committee would like to see the amendments before acting upon them.

CHAIRMAN WEEDING asked if those amendments would resolve the concerns of most committee members. **SEN. STANG** replied he thought that they would, but added he would like to see the amendments before making a final decision on HB 281.

EXECUTIVE ACTION ON HOUSE BILL 294

Motion:
SEN. SWYSGOOD moved to AMEND HB 294 TO INCREASE THE LIMIT OF 500 POUNDS/INCH TIRE WIDTH TO 550 POUNDS/INCH TIRE WIDTH.

Discussion:
SEN. SWYSGOOD said he was not sure he liked HB 294 at all. He stated he thought that highway rutting was caused as much by highway construction and the elasticity in the asphalt as by single tire operations. He said his amendment would reduce the weight by 50 pounds/inch tire width and would not force any motor carriers to change their equipment. He stated DOT had not proven that this type of operation is the real culprit in highway rutting. He stated he agreed with DOT that using wide based single tires on single axle operations was not safe, but he disagreed that tandem axles should be limited.

SEN. TVEIT asked what total difference in total axle weight the reduction from 600 to 500 pounds/inch tire width would make. **Dave Galt** replied a standard single axle with four ten inch tires at 500 pounds/inch tire width would be allowed to carry 20,000 pounds the way HB 294 is currently written. He emphasized that the standard is 20,000 pounds, so HB 294 would not reduce the amount of weight currently hauled. He stated the 500 pound limit was designed to stop the proliferation of more wide based tires, especially on single axle and tandem axle applications with wide based tires. He said HB 294 would not affect most of the trucks that operate in Montana, but it would help to prevent the regular standard semi-truck from using single tires. He noted that if the limit were raised to 550 pounds/inch tire width, the standard semi-truck would be able to use single tires. He stated DOT believes if that is allowed, there will be an increase in pavement rutting on the highways.

CHAIRMAN WEEDING asked if these regular trucks could not make the weight limit with single tires if only 500 pounds/inch tire width were allowed. **Dave Galt** replied a standard wide based 16 inch tire would only be allowed to bear a load of 32,000 pounds on a tandem axle with four tires. He noted that was 2,000 pounds below the current 34,000 pound allowed weight. He said DOT did not think many carriers would convert to single tires on a five axle semi-truck to save tare weight if they were forced to take a 4,000 pound cut in pay load weight.

SEN. TOEWS said the one company which would be affected by HB 294 could comply with the weight restrictions in HB 294 for a relatively small amount of money. He stated he did not believe that highway weight limits should be based upon what a small number of companies might want to do. He added weight limits needed to be kept "closer to the bottom end" of allowable weights.

SEN. STANG spoke against the amendment. He stated DOT had originally asked that the limit be placed at 450 pounds/inch tire width but had compromised when the House changed that limit to 500 pounds. He added that he supported the amendment which would change the effective date to 1996 thus giving the affected company time to reconfigure its equipment. **SEN. STANG** stated if the amendment proposed by **SEN. SWYSGOOD** were adopted, he would attempt to reestablish the 500 pounds/inch tire width on the Senate floor.

Vote:
The MOTION TO AMEND HB 294 FAILED with **SEN. SWYSGOOD** voting YES.

Motion/Vote:
SEN. STANG moved to AMEND HB 294 (Exhibit #7). The MOTION CARRIED UNANIMOUSLY.

Discussion:
Tom Gomez said that the technical amendment (Exhibit #8) was absolutely necessary. He explained a House floor amendment had re-instituted the weight tables in MCA 61-10-105, but HB 294 was intended to repeal that section. He stated in order for HB 294 to be effective, that section needed to be repealed.

Motion/Vote:
SEN. MCCLERNAN moved to AMEND HB 294 (Exhibit #8). The MOTION CARRIED UNANIMOUSLY.

Motion/Vote:
SEN. STANG moved HB 294 BE CONCURRED IN AS AMENDED. The MOTION CARRIED with **SEN. SWYSGOOD** voting NO.

ADJOURNMENT

Adjournment: 4:56 p.m.

SENATOR CECIL WEEDING, Chair

BETH E. SATRE, Secretary

CW/bes

ROLL CALL

SENATE COMMITTEE HIGHWAYS & TRANSPORTATION DATE MARCH 4, 1993

NAME	PRESENT	ABSENT	EXCUSED
SEN. CECIL WEEDING, CHAIR	X		
SEN. BETTY BRUSKI-MAUS, VICE-CHAIR	X		
SEN. JOHN HARP	X		
SEN. FRANCIS KOEHNKE	X		
SEN. HENRY McCLERNAN	X		
SEN. JACK "DOC" REA	X		
SEN. BARRY "SPOOK" STANG	X		
SEN. CHARLES "CHUCK" SWYSGOOD	X		
SEN. DARYL TOEWS	X		
SEN. LARRY TVEIT	X		

F08

Attach to each day's minutes

SENATE STANDING COMMITTEE REPORT

March 4, 1993

MR. PRESIDENT:

We, your committee on Highways and Transportation having had under consideration House Bill No. 337 (first reading copy -- blue), respectfully report that House Bill No. 337 be concurred in.

Signed: Cecil Weeding
Senator Cecil Weeding, Chair

M - Amd. Coord.
___ Sec. of Senate

Senator Forrester
Senator Carrying Bill

491715SC.Sma

SENATE STANDING COMMITTEE REPORT

March 4, 1993

MR. PRESIDENT:

We, your committee on Highways and Transportation having had under consideration House Bill No. 295 (first reading copy -- blue), respectfully report that House Bill No. 295 be concurred in.

Signed: Cecil Weeding
Senator Cecil Weeding, Chair

M- Amd. Coord.
___ Sec. of Senate

Sen Koehnke
Senator Carrying Bill

491717SC.Sma

SENATE STANDING COMMITTEE REPORT

March 5, 1993

MR. PRESIDENT:

We, your committee on Highways and Transportation having had under consideration Senate Bill No. 417 (first reading copy -- white), respectfully report that Senate Bill No. 417 be amended as follows and as so amended do pass.

Signed: Cecil Weeding
Senator Cecil Weeding, Chair

That such amendments read:

1. Page 3, line 7.
Strike: "$1,000"
Insert: "$200"

2. Page 5, line 2.
Strike: "$1,000"
Insert: "$200"

-END-

M - Amd. Coord.
Sec. of Senate

SENATE STANDING COMMITTEE REPORT

March 4, 1993

MR. PRESIDENT:

We, your committee on Highways and Transportation having had under consideration House Bill No. 256 (first reading copy -- blue), respectfully report that House Bill No. 256 be concurred in.

Signed: Cecil Weeding
Senator Cecil Weeding, Chair

M- Amd. Coord.
___ Sec. of Senate

Senator Bruski-Maus
Senator Carrying Bill

491714SC.Sma

SENATE STANDING COMMITTEE REPORT

March 5, 1993

MR. PRESIDENT:

We, your committee on Highways and Transportation having had under consideration House Bill No. 294 (first reading copy -- blue), respectfully report that House Bill No. 294 be amended as follows and as so amended be concurred in.

Signed: Cecil Weeding
Senator Cecil Weeding, Chair

That such amendments read:

1. Title, line 8.
Strike: "SECTIONS 61-10-101,"
Insert: "SECTION"

2. Title, lines 8 through 11.
Following: "61-10-107," on line 8
Strike: remainder of line 8 through "61-10-105," on line 11

3. Page 1, lines 15 through 22.
Strike: section 1 in its entirety
Renumber: subsequent sections

4. Page 4, line 8 through page 26, line 16.
Strike: sections 3 through 16 in their entirety
Insert: "NEW SECTION. **Section 2. Date of compliance.** All equipment existing on or after [the date the governor signs this act] must comply with the provisions of 61-10-107(2) by January 1, 1996."
Renumber: subsequent section

-END-

M - Amd. Coord.
Sec. of Senate

Stang
Senator Carrying Bill

501101SC.Sma

SENATE HIGHWAYS
EXHIBIT NO. 1
DATE March 4, 1993
BILL NO. HB 295

Testimony Before Senate Highways Committee
RE: HB 295

Mr. Chairman, members of the committee, my name is Glenna Wortman-Obie, manager of public relations and safety for AAA Montana.

Although older adults represent only 13 percent of the population, nearly a quarter of all pedestrian fatalities involve someone 65 or older.

As the vision, hearing and reaction time of our aging population decline and bodies become more fragile, we may see an increase in pedestrian fatalities.

The number of people age 65 and older is expected to jump 62 percent between 1990 and 2020. If their accident rate remains the same as it is today, the number of older pedestrians injured and killed each year will increase from 10,000 to more than 16,000.

The Intermodal Surface Transportation Efficiency Act (ISTEA) makes it a federal priority to focus on better planning for the safety of pedesestrians, a priority AAA applauds.

AAA Montana supports House Bill 295. It is a first step in extending improved quality of life for our older pedestrians. They too are part of the traffic mix.

SENATE HIGHWAYS
EXHIBIT NO. 2
DATE March 4, 1993
BILL NO. HB 295

Testimony on House Bill 295

by

Donald P. Dusek
Traffic Engineer, Traffic Engineering Section
Montana Department of Transportation

The proposed legislation involves amendment to 61-8-310 MCA "When local authorities may and shall alter limits." The amendment revises subsection (1)(d) to include senior citizen centers with school zones. This subsection allows the local authority to decrease the speed limit along a specified segment of roadway (presently near schools and designated school crosswalks) to not less than 80 percent, rounded down to the nearest whole number evenly divisible by 5 but not less than 25 miles per hour, of an the speed limit that would be set on the basis of an engineering and traffic investigation.

The Department of Transportation opposes this legislation amending subsection (1)(d). This opposition is based on grounds that this is inappropriate use of the speed limit sign. This amendment incorrectly assumes that an arbitrarily reduced speed limit can be used to slow down the general traffic stream and improve safety. It is a fundamental traffic engineering principle,proven nationwide, that the speed of the traffic stream that exists on any segment of roadway is a function of the roadway conditions and the relationship those conditions have with the surrounding environment. In actuality the speed limit sign has little or no affect on the speed of the traffic stream and provides no communication to the driver that there is a pending conflict to be dealt with.

The real issue here is concern for public safety along roadways passing by senior citizen centers and though crosswalks providing pedestrian access to those centers. To be successful, safety issues must be dealt with in a direct and deliberate manner. Counter measures to be implemented, once a safety problem has been identified, must be directly and clearly targeted at the problem. It is very important to note that the counter measure chosen should make the motorist directly aware of the conflict and at the same time appear logical or it will be ignored.

Arbitrary adjustment of the speed limit will not do anything to positively address such concerns. To be successful, counter-measures aimed at improving safety on our roadways should not require either the pedestrian or the motorist to divert from their natural response to the situation at hand. If the roadway conditions visible to the motorist do not clearly show reason to alter travel speed the motorist will not respond. Of course, if law enforcement is present, successful adjustment may be obtained during that presence. However, experience has shown that once the visible law enforcement is removed the speed of the traffic stream

returns to its natural level.

Speed based on conditions is the foundation recognized by all 50 states in the setting of speed limits. To identify what that limit should be several factors must be considered in an engineering and traffic investigation. Those factors are:

1. Road characteristics.

2. The 85th percentile speed and pace speed.

3. Roadside development and culture, and roadside friction

4. Safe speed for curves or hazardous locations within the zone.

5. Parking practices and pedestrian activity.

6. Reported accident experience for a recent 12-month period.

Setting speed limits based on logical conclusions generated from this engineering and traffic investigation is strongly recommended by the Department of Transportation and is consistent with practice recommended by the national Manual on Uniform Traffic Control Devices, which has been adopted by the state of Montana, and by the National Institute of Transportation Engineers.

In 1985 and again in 1991 Mr. Robert K. Seyfried, Director or the Transportation Engineering Division of the Traffic Institute at Northwestern University was brought in to evaluate the Montana Highway Commission's policies and practices regarding special speed zones. In the reports he continually emphasized that there are three major elements that must be recognized in establishing speed zones:

1. The large majority of drivers can and do recognize a safe and appropriate speed for pervailing conditions along a road,

2. Realistic speed zones allow enforcement personnel to concentrate their efforts on the relatively few drivers who can not or will not exercise good judgement,

3. A speed zone set unrealisticly low will

- be ignored by a large percentage of the motorists,

- resulting enforcement activity will be perceived as harrassment, and

- the judicial system will not be able to effectively distinguish between drivers who do or do not exercise good judgement

Serious safety issues found on our roadways should be dealt with

directly through engineering measures which may include elements such as warning signs, roadway pavement markings, clearing away of sight obstructions and, when necessary, roadway reconstruction.

In order for the speed limit to play a role in the safe movement of traffic along any segment of roadway it must be set at a level that promotes voluntary compliance from the large majority of motorists. The result is consistant and predictable patterns in the traffic stream. The engineer can then predict the potential success of traffic control or reconstructive measures targetted at safety problems. Also, then law enforcement can deal with the relative few, approximately 15 percent of the motorists, who can not or will not drive reasonably under prevailing conditions.

It is our experience that the speed limit sign is not an effective tool in attempting to directly deal with safety issues identified along our roadways. In fact, if it is mis-used and set arbitrarily it can cause conflict in the traffic stream and create safety problems. Arbitrarily lowered speed limits can expand the range of travel speeds in the traffic stream. The few drivers that slow down below the naturally desired levels interfer with and restrict the other motorists. Driver anxiety increases, resulting in conditions where drivers are commonly following to close and in some cases will attempt to pass where conditions are not appropriate.

We strongly urge you to not amend Section 61-8-310. To do so would not improve safety but only create speed traps.

EXHIBIT 2
DATE 3/4/93
HB 245

Traffic Engineering – Myths and Realities

BENJAMIN E. BURRITT, P.E.
Associate Vice President,
Daniel, Mann, Johnson, & Mendenhall,
Phoenix, Arizona

TRAFFIC engineers and the public often carry severe handicaps when dealing with each other because they simply do not talk the same language, they do not understand the nature of each other's problems, or both. This is understandable when you realize that engineers approach traffic problems on the basis of data analysis, applying engineering principles, developing alternative solutions, and selecting the best course of action — whereas the citizen is usually interested in getting something done quickly to solve what he perceives to be an obvious problem.

One of the greatest obstacles a professional traffic engineer faces in applying sound principles of traffic control is that everyone who has a driver's license is convinced that they are traffic experts. Consequently, the traffic engineer is often given not only the diagnosis of a traffic problem, but a remedy as well. For example, someone calls and says, "I almost got hit turning left at Buckeye Road and 51st Avenue — what we need there is a left turn arrow — how long will it take to put it in?" In a sense this would be like calling your doctor and saying, "Doc, I've got a pain in my stomach — what I need is my appendix removed — how soon can you do the operation?"

At this point let me hasten to say that most traffic engineers encourage information, suggestions, and input from the public. This is one of the ways that they become aware of existing or potential traffic operational problems. Engineers must be receptive to input from the public and attempt to overcome the built-in handicaps by trying to communicate in a common understandable language.

What I would like to do now is to review a couple of the myths and realities pertaining to traffic engineering and traffic controls.

Myth Number 1: The public knows and cares about traffic engineering principles, objectives, analyses, alternatives, or methods.

Reality: The familiar expression "Don't confuse me with facts, my mind is made up!" unfortunately has widespread acceptance. The public is handicapped by a short attention span and an aversion to facts, logic, or viewpoints that are contrary to its personal opinions and emotions.

Myth Number 2: Traffic control devices (signs, signals, and markings) provide an effective solution to almost any traffic problem.

Reality: There is widespread public unwillingness to accept abundant evidence of limited effectiveness of various devices in solving basic design or construction deficiencies. The political need to "do something that might help, doesn't cost much, and can't hurt" is overpowering and further encourages the public demand. The fallacy lies in thinking that a safer condition prevails when actually this may not be the case.

Let's take a look at a few of the common traffic controls in view of the myths and the realities.

Pedestrian Crosswalks

How safe are they? How secure are you in a crosswalk? Marked crosswalks are widely classified as "safety devices" and most jurisdictions give the pedestrian the right-of-way when within them.

Interestingly, however, there is strong evidence that these very facts prompt many pedestrians to feel overly secure when using a marked crosswalk — to the degree that they aggressively place themselves in a hazardous position with respect to vehicles in the mistaken belief that the motorist can and will stop in all cases, even when it may be impossible to do so. It is not unusual, also, for this type of aggressive pedestrian behavior to cause rear-end collisions.

By contrast, a pedestrian using an unmarked crosswalk generally feels less secure, less certain that the motorist will stop — and exercises more caution in waiting for safe gaps in traffic before crossing. The end result is fewer accidents at unmarked crosswalks.

One of the commonly accepted functions of the marked crosswalk is that it serves as a warning device to the motorists. Yet, studies show that the motorists' views of a crosswalk are greatly reduced when they are at the safe stopping sight distance — where they should be able to perceive and react to a pedestrian in a crosswalk — due to the effects of foreshortening and distance diminishment. Their view of the crosswalk is further affected by road alignment, irregularities in the pavement, and other variables like weather, dirty windshields, glare, and adverse lighting conditions.

Meanwhile, pedestrians' views of the same crosswalk are quite impressive and they are prone to assume that, since they can see the crosswalk so well, certainly motorists can see it just as clearly. This resulting overconfidence is seen as another factor in the disproportionate share of accidents in marked crosswalks.

Does this mean marked crosswalks should not be installed? Not necessarily. The marked crosswalk is a useful device for channelizing pedestrians and helping pedestrians find their way across complex and confusing intersections. The decision to install or not install a marked crosswalk should not be taken lightly. Rational warrants have been adopted by many governmental jurisdictions for their installation.

It is important that the general public recognize what marked crosswalks can and cannot do. It is also important that public officials not install them, unless the anticipated benefits outweigh the risks.

Traffic Signals

Are traffic signals the answer to intersection traffic problems? Let's look at the advantages and disadvantages.

Signals offer maximum control at intersections — they relay messages of both what to do and what not to do. The primary function of any traffic signal is to assign right-of-way to conflicting movements of traffic at an intersection, and it does this by permitting conflicting streams of traffic to share the same intersection by means of time separation.

By alternately assigning right-of-way to various traffic movements, signals provide for the orderly movement of conflicting flows. They may interrupt extremely heavy flows to permit the crossing of minor movements that could not otherwise move safely through the intersection.

When properly timed, the traffic signal increases the traffic handling capacity of an intersection, and when installed under conditions that justify its use, it is a valuable device for improving the safety and efficiency of both pedestrian and vehicular traffic. In particular, signals may reduce certain types of accidents, most notably the angle (broadside) collision.

While many people realize that traffic signals can reduce the number of angle collisions at an intersection, few

8.87 billion, the highest number since 1961 when most transit was run by private carriers facing mounting financial difficulties.

Ridership jumped by 101 million over 1987 and is up more than 10 percent since 1982, according to the authoritative Transit Fact Book, published by APTA, the 107-year-old international trade association of transit operators, their suppliers and manufacturers.

Jack R. Gilstrap, executive vice president of APTA, said the ridership record shows that people will choose transit as an alternative to the automobile — especially for commuting — if service is reliable, dependable, and provided on modern vehicles.

Gilstrap said growing transit patronage also reflects an emerging public desire to travel sensibly and upgrade the quality of life in cities and suburbs. "The use of public transportation is a spreading ethic," he added.

Two-thirds of transit ridership occurs on buses and vans, with virtually all the rest on subways, "light rail" trolleys, and commuter railroads, APTA reported. Although use of transit occurs mainly in the country's largest metropolitan areas, the greatest ridership increases from 1987 to 1988 occurred in small urban areas with populations of fewer than 100,000 people (11 percent) and among communities served by door-to-door special services (23 percent), APTA said.

APTA News, October 6, 1989.

Railroad Crossing Safety Plan Approved

A $10-million plan to install signals at 117 railroad crossings on the state's roadways has been approved by the Texas Highway Commission. A separate plan to replank 146 crossings at a cost of $3.5 million was also approved. The two plans are part of ongoing programs to upgrade rail-highway crossings around the state.

"Texas leads the nation in the number of miles or railroad track as well as the number of railroad crossings on our highways," said Arnold Oliver, engineer-director of the highway department. "Approximately 9,300 of the state's 14,000 rail-highway crossings have no signal. This program, which is Federally funded, allows us to improve safety at railroad crossings by providing automatic signal devices."

Texas Department of Highways and Public Transportation News, October 27, 1989.

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Traffic Engineering Myths

(Continued from page 64)

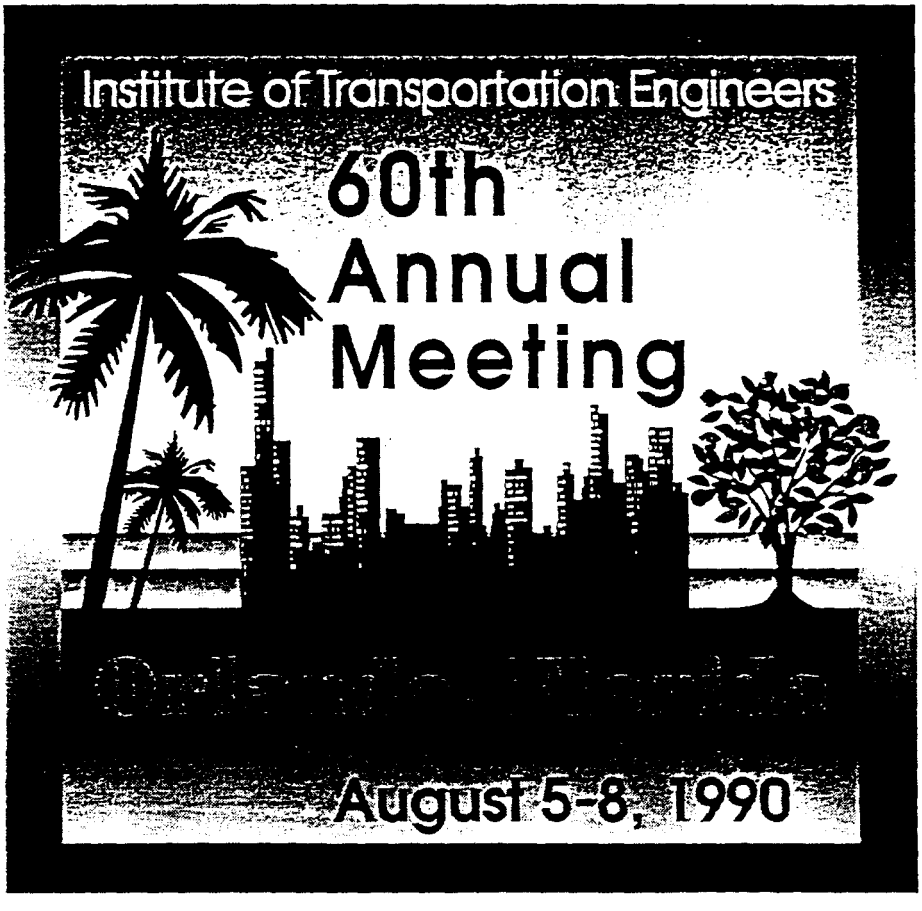
In summary, when flashers are properly located, they serve a useful function. When they are used improperly and installed in locations where they are not warranted, they soon lose much, if not all, of their effectiveness. More seriously, improper usage greatly reduces the effectiveness of other flashers installed in areas where there is a real need.

Above all, it is essential to prove that there is a problem which can be solved through the installation of a flasher before actually employing one. Too often, flashers are installed when someone assumes there is, or is going to be, a problem. It is important that flasher installation be minimized to maintain a high degree of respect for the flasher installations that are truly needed.

In conclusion, many people still wonder why an "obvious" traffic problem is so difficult that someone called a traffic engineer should be needed to develop a solution. Hopefully, the preceding discussion has been in a common understandable language that will help overcome the built-in handicap inherent in communications between laymen and

SENATE HIGHWAYS
EXHIBIT NO. 4
DATE March 4, 1993
BILL NO. HB 295

Compendium of Technical Papers



Institute of Transportation Engineers

Driver Speed Behavior on U.S. Streets and Highways

Samuel C. Tignor, Ph.D. (M)[a] and Davey Warren[b]

Introduction

During the past 5 years the Federal Highway Administration has sponsored a number of studies to establish a better understanding of travel speeds and speed limits on various types of roads. The study of the speed zoning problem was prompted in part by concern about widespread violations and the seemingly arbitrary level of many posted speeds.

Speed limits are intended to inform drivers of the maximum reasonable and safe travel speed. However, there is little agreement on what constitutes a safe speed. In a nationwide survey of current speed zoning practices, all States and most of the 44 localities reported using the 85th percentile speed as the basic factor in setting speed limits.[1] However, the posted speed is often set up to 10 mi/h lower than the prevailing speed based on a subjective consideration of other factors such as roadside development. The relative subjectivity of the speed zoning process points to the need to re-examine criteria and procedures used in setting speed limits.

Properly established speed limits foster voluntary compliance and separate the occasional high risk driver from the vast majority of drivers. On the other hand speed limits which are set artificially low tend to be ignored and misallocate resources, apprehending and prosecuting motorists driving at safe speeds. Over time this could lead to a loss of respect for all speed limits and create the impression that traffic law enforcement and the judicial system are unfair. The same public when emotionally aroused demand and often get reduced speed limits by believing the lower limit will slow down traffic and reduce accidents.

Even though a great deal has been written and said about speed limits, there is almost no scientific research on the precise effects on the number of accidents of altering speed limits. Most traffic officials agree we should be working to improve our knowledge of the effects of speed limits and to develop criteria that are objective and scientifically sound.

This paper presents some preliminary results of our research on speed limits, speeds, and accident risk. The final results are not expected until early next year.

Data Collection

The basic data for the analysis describe here consists of speeds from two separate studies. In one study, data were collected to determine speed characteristics and the reasonableness of speed limits on low and moderate speed roads in urban, small-urban, and rural built-up areas. Speeds were measured for a 24-hour period on 52 roads and streets in four states: Delaware, North Carolina, Colorado, and Arizona. The measurements were made with the IRD 1040 traffic statistics recorder connected to a pair of loop mats in each lane. The equipment stores the arrival time, lane, speed, and length of each vehicle. The sites were randomly selected from the Highway Performance Monitoring System using a stratified clustered sampling procedure to represent different road types and speed laws. Accident data were obtained for a 3-year period and the relation between accident risk and travel speed in urban areas was determined using the estimated travel speed before the crash.

A second study is taking advantage of routine speed zoning changes made by the States to determine on a scientific basis the effects of altering speed limits on travel speed, accidents and injury consequences. Speeds and headways were measured for a 24-hour period at 102 sites in 23 States (Figure 1) before and 1 year after the change took place. The measurements were made using the Sarasoto VC1900 traffic classifier connected to a pair of portable loop mats in each lane. The data were collected in the free-flow mode which classifies the speeds in 1-mi/h bins from 1 to 128. A four-second headway was used to define free vehicles. Data were simultaneously collected at another 102 sites on similar roads without any change in speed limit to control for time trends. The sites represent a full range of speed limits and road types including a few 65 mi/h freeways.

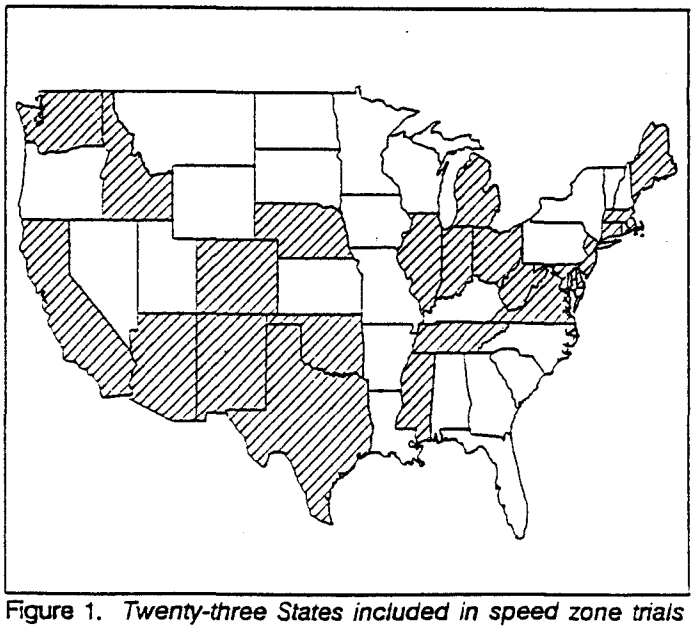


Figure 1. *Twenty-three States included in speed zone trials*

[a]*Chief, Traffic Safety Research Division, Federal Highway Administration, McLean, Virginia*
[b]*Highway Research Engineer, Federal Highway Administration, McLean, Virginia*

Supplemental measurements were made at some of the sites to investigate any spillover effects on surrounding roads.

Preliminary Results

Driver compliance with speed limits is poor (Figure 2). On average, 7 out of 10 motorists exceeded the posted speed in urban areas. Compliance ranged from 3 to 99 percent. Compliance tended to be worse on low speed roads, better on roads with prima facie limits, or where the speed limit was based on an engineering study. Better does not mean good compliance; less than 10 percent of the sites had more than 50 percent obedience with the posted speed.

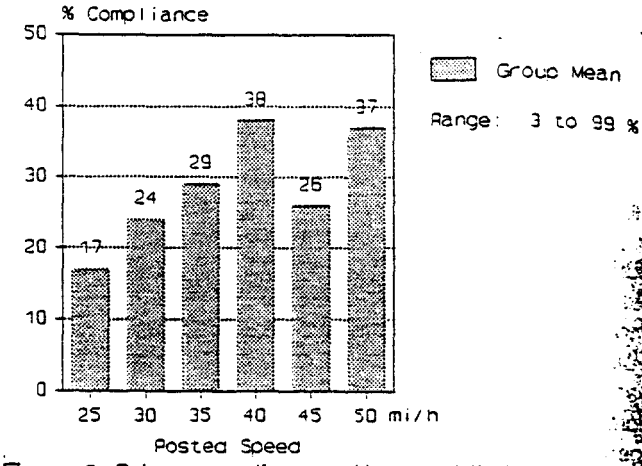


Figure 2. *Driver compliance with speed limits*

On many streets and highways the speed limit is set 8 to 12 mi/h below the prevailing 85th percentile speed (Figure 3). The extreme case was a prevailing speed of 51 mi/h in a 30-mi/h zone. Truck speeds were consistently 3 mi/h slower than car speeds in urban areas. The factors that had the most influence on speeds were number of access points and commercial development.

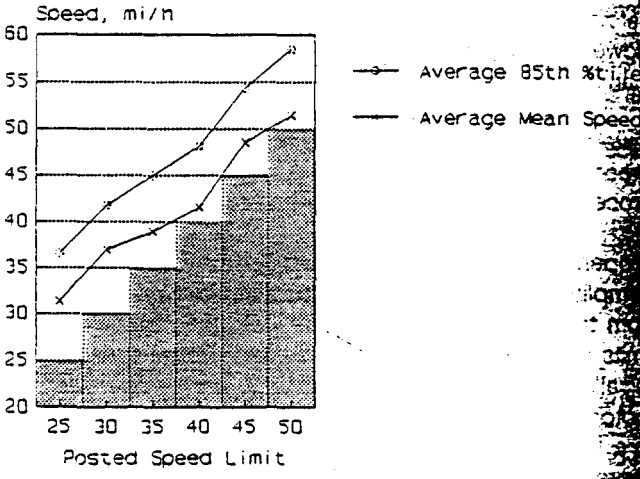


Figure 3. *Prevailing speeds in urban areas*

The accident involvement rates on streets and highways in urban areas was highest for the slowest 5 percent of traffic, lowest for traffic in the 30 to 95 percentile range and increased for the fastest 5 percent of traffic (Figure 4). The relative involvement rate is a measure of the chance of being involved in an accident, and is a ratio of the percent of accidents in a given speed range to the percent of travel in the same speed range.

For each accident that occurred at a site, the speed of each vehicle involved in the accident was assigned to the appropriate percentile speed category for that site. All such data from each site were then combined and the relative risk computed. The risk curve illustrated in Figure 4 for roads in built-up areas is consistent with the work of Solomon[2], Cirillo[3], and West and Dunn[4] which showed that the risk of involvement in accidents is minimum near the average speed of traffic and increases dramatically for vehicles traveling much slower or faster than average. The rate at which drivers experience overtakings follows a similar U-shaped relationship and provides a theoretical explanation for the shape of the speed-risk curve.[5]

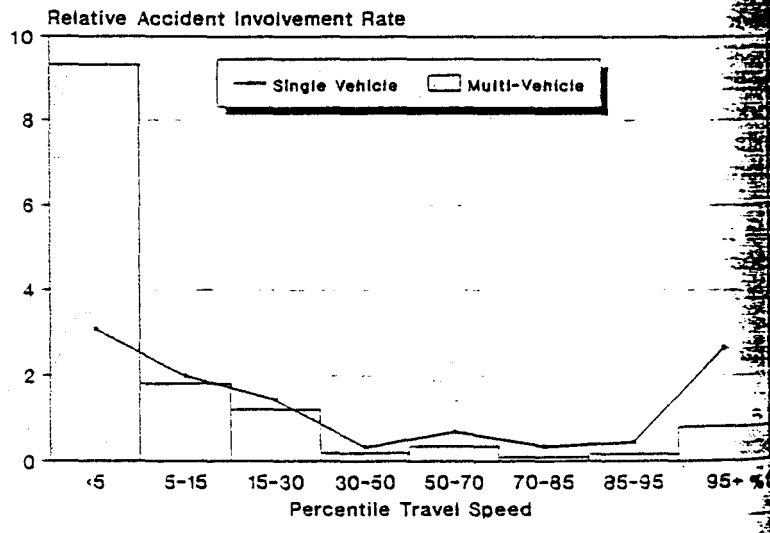


Figure 4. *Speed and accident risk in built-up areas*

Many current speed limits coincide with 30 percentile speed which is near the lower bound of safe travel speed. Speed limits should be set in the 70 to 90 percentile range or roughly 5 to 10 mi/h above the average speed to correctly reflect maximum safe speed. Speed limits are set in multiples of 5 mi/h; the 70 to 90 percentile range will almost always include a 5 mi/h multiple. Allowing a 5 mi/h tolerance, enforcement would then be targeted at drivers who are clearly at risk.

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WP 295

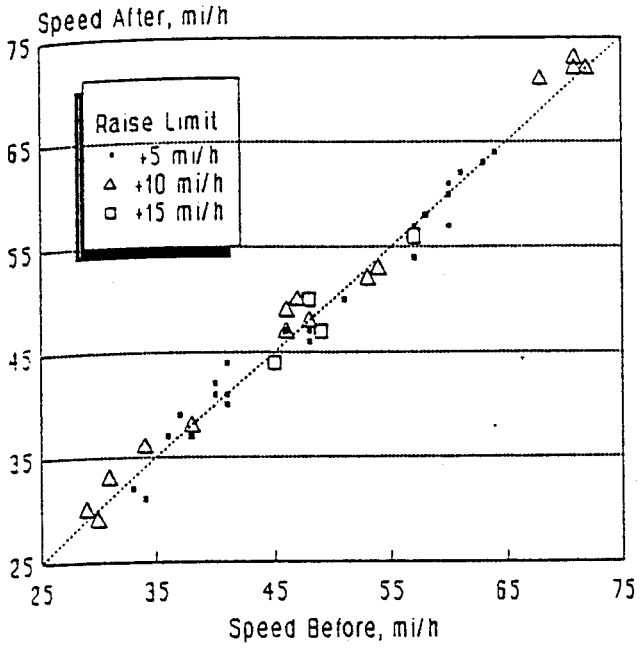


Figure 5. *Prevailing speeds before and after raising speed limits (N=45)*

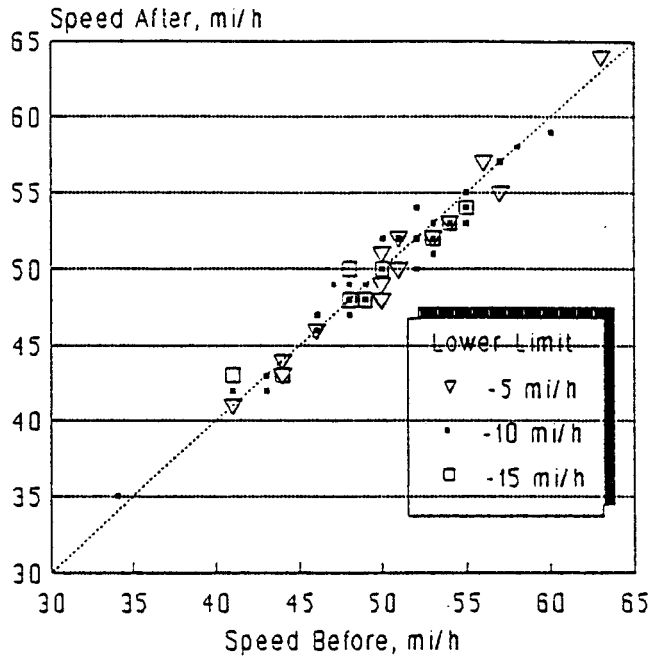


Figure 6. *Prevailing speeds before and after lowering speed limits (N=57)*

If speed limits were raised to more realistic levels, would drivers automatically drive 5 to 10 mi/h over the new speed limit as is commonly believed? The answer is no. Raising the speed limit by various amounts up to 15 mi/h has little or no effect on speeds over a broad range of road types and speed levels (Figure 5).

Conversely, lowering the speed limit will not slow down traffic (Figure 6). Although speed increases of 3 mi/h and decreases of 3 mi/h were observed at individual sites, the expected change in speed is less than 1 mi/h which is normal variation (Figure 7). In addition there is no evidence in our studies that raising the speed limit to 65 on rural interstate interstate freeways led to an increase in speeds off the freeway (Figure 8).

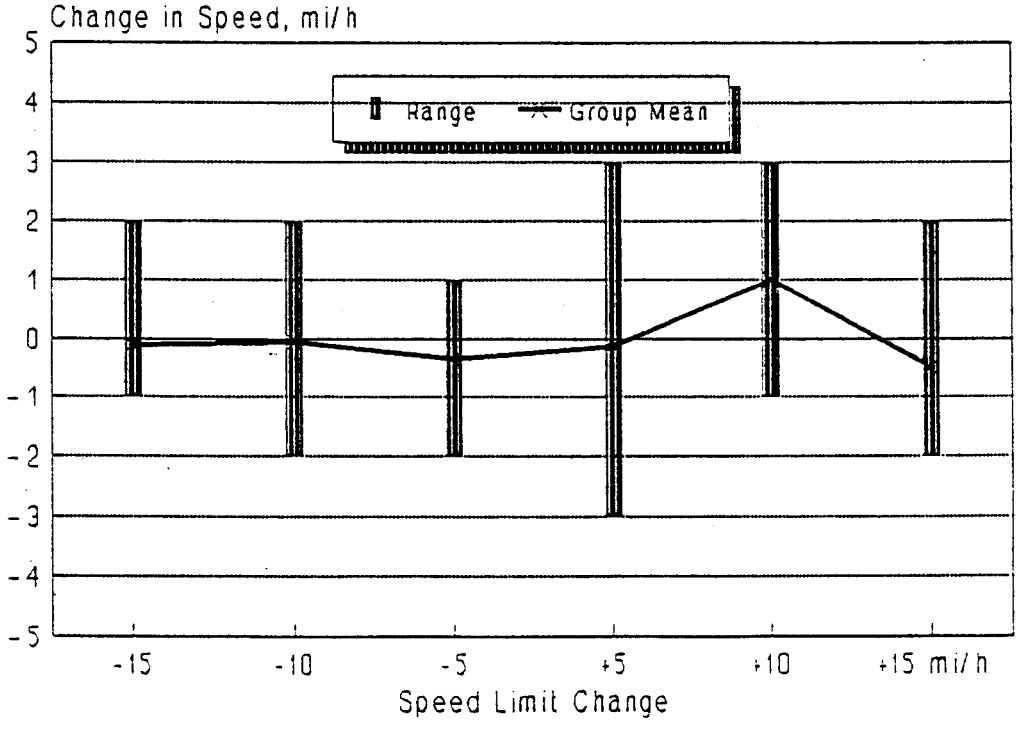
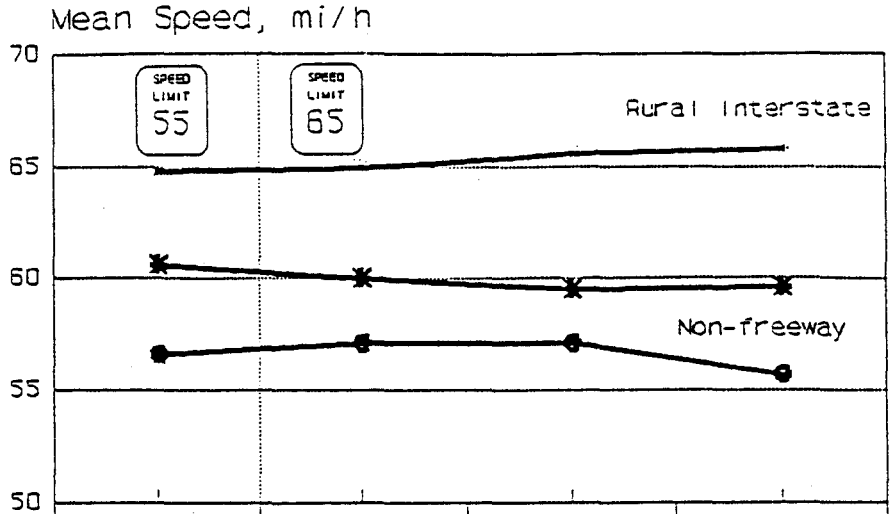


Figure 7. *Effects of altering speed limits by various amounts (N=102)*



	OCTOBER 87	JANUARY 88	MAY 88	JULY 88
I-96 Rural	64.8	65	65.6	65.8
I-69 Urban	64.6	65.1	66.1	66.4
MI52@196	60.6	60	59.5	59.6
MI52@194	56.6	57.1	57.1	55.7

Figure 8. *Spillover effect on and off Interstate freeways*

Conclusions

It would be premature to draw any firm conclusions since the research is still underway. However the findings to date suggest that, on the average, current speed limits are set too low to be accepted as reasonable by the vast majority of drivers. Only about 1 in 10 speed zones has better than 50 percent compliance. The posted speeds make technical violators out of motorists driving at reasonable and safe speeds.

For the traffic law system to minimize accident risk, then speed limits need to be properly set to define maximum safe speed. Our studies show that most speed zones are posted 8 to 12 mi/h below the prevailing travel speed and 15 mi/h or more below the maximum safe speed. Increasing speed limits to more realistic levels will not result in higher speeds but would increase voluntary compliance and target enforcement at the occasional violator and high risk driver.

One way for restoring the informational value of speed limits requires that we do a better job of engineering speed limits. Hopefully, the results of this research will provide engineers with the knowledge and tools needed to set maximum safe speed limits that are defensible and accepted by the public and the courts.

Disclaimer

The views expressed in this paper are those of the authors and are not necessarily the views of the Federal Highway Administration or the U. S. Department of Transportation.

References

1. Parker, M.R., Synthesis of Speed Zoning Practices, Report No. FHWA/RD-85/096, Federal Highway Administration, July 1985.

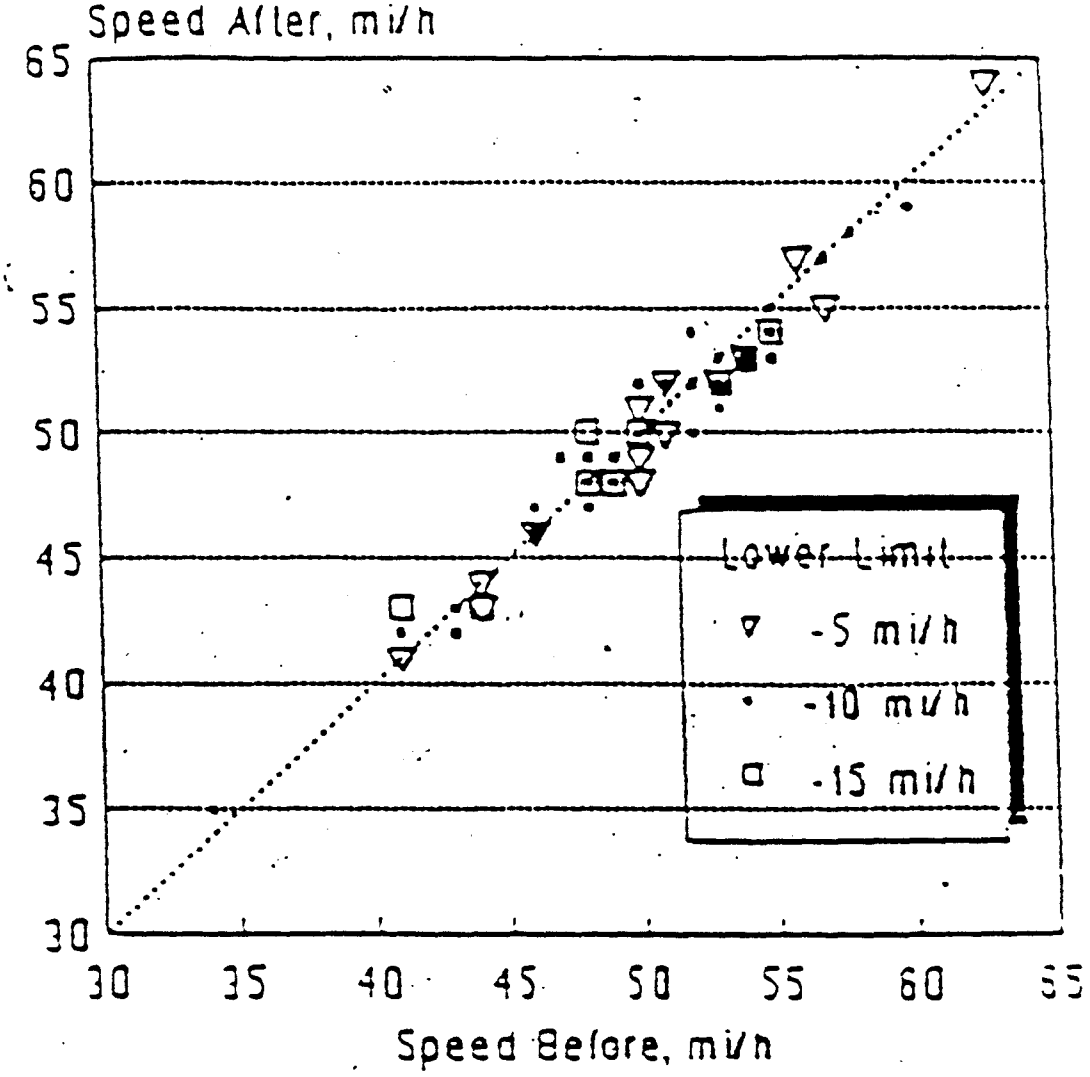
2. West., L.B. and Dunn, J.W., Accidents, Speed Deviation and Speed Limits, Traffic Engineering, Vol. 41, No. 10, July 1971, pp. 52-55.

3. Solomon, D., Accidents on Main Rural Highways Related to Speed, Driver and Vehicle, Bureau of Public Roads, July 1964.

4. Cirillo, J.A., Interstate System Accident Research Study II, Interim Report II, Public Roads, Vol. 35, No. 3, August 1968, pp. 71-75.

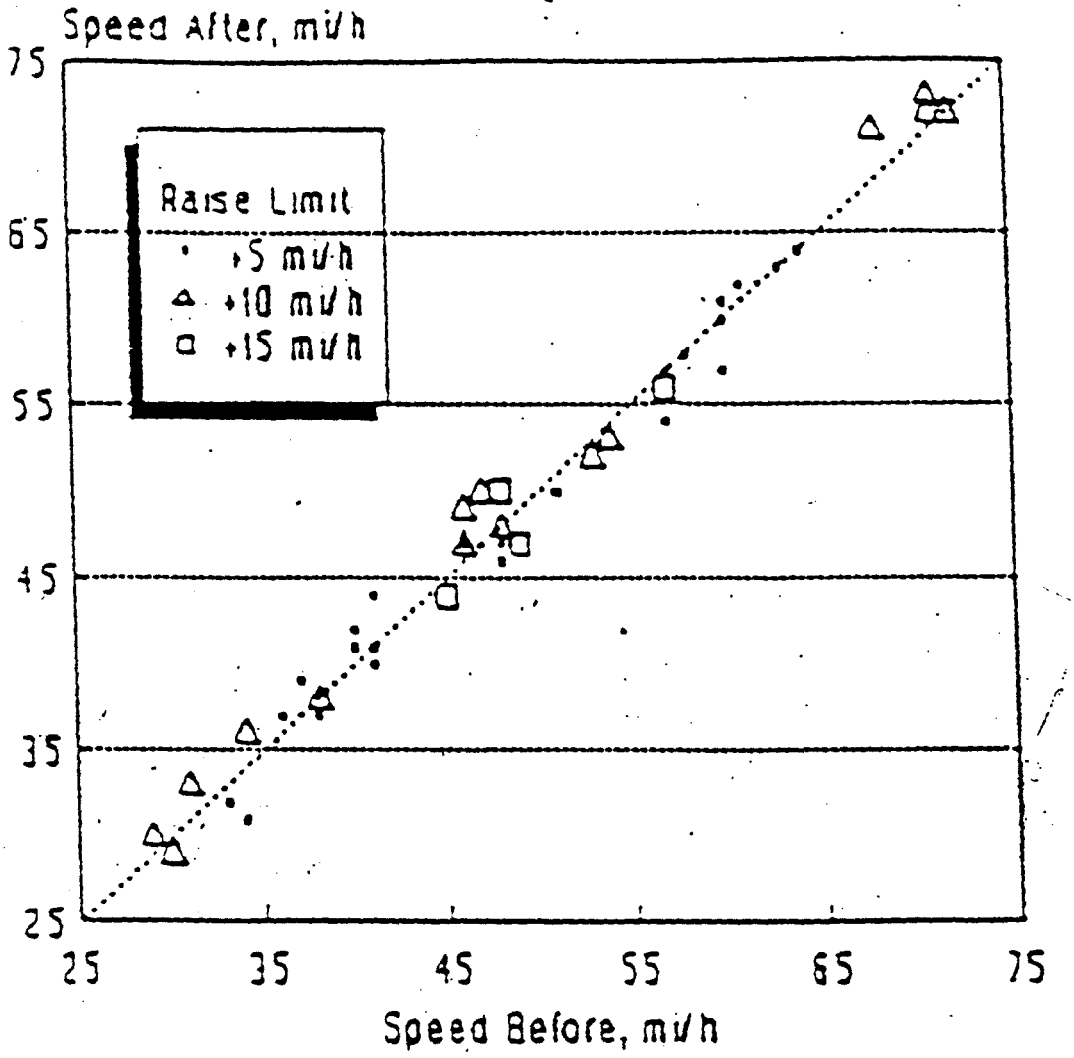
5. Hauer, E., Accidents, Overtaking and Speed Control, Accident Analysis and Prevention, Vol. 3, No. 1, July 1971, pp. 1-13.

SENATE HIGHWAYS
EXHIBIT NO. 5
DATE March 4, 1993
BILL NO. HB 295



1. Prevailing speeds before and after lowering speed limits

Speed Zoning in America: Some Preliminary Research Results. U.S. Department of Transportation, Federal Highway Administration. November 1989.



ıre 2. Prevailing speeds before and after raising speed limits

ɪce: Speed Zoning in America: Some Preliminary Research Results. U.S. Department of Transportation, Federal Highway Administration. November 1989.

EXHIBIT 6
DATE 3/4/93
HB 281

Amendments to House Bill No. 281
Third Reading Copy

Requested by Senator Swysgood
For the Senate Highways and Transportation Committee

Prepared by Tom Gomez
March 5, 1993

1. Title, lines 5 through 8.
Following: "SNOWMOBILES;" on line 5
Strike: remainder of line 5 through "WARDENS;" on line 8

2. Title, line 13.
Following: "~~AND~~"
Insert: "AND"
Following: "23-2-654,"
Strike: "AND 87-1-503,"

3. Page 10, line 2.
Strike: "(13)"
Insert: "(12)"

4. Page 10, line 17.
Following: "SECTION"
Strike: "14"
Insert: "13"

5. Page 14, line 25 through page 15, line 3.
Strike: subsection (b) in its entirety
Renumber: subsequent subsections

6. Page 17, line 20.
Following: line 19
Strike: line 20 through "$750"

7. Page 17, lines 23 through 25.
Following: "~~vehicles~~." on line 23
Strike: remainder of line 23 through "occurrence." on line 25

8. Page 21, line 15 through page 22, line 16.
Strike: section 12 in its entirety
Renumber: subsequent sections

9. Page 24, line 8 through page 25, line 7.
Strike: section 15 in its entirety
Renumber: subsequent section

SENATE HIGHWAYS
EXHIBIT NO. 7
DATE March 4, 1993
BILL NO. HB 294

Amendments to House Bill No. 294
Third Reading Copy

For the Senate Highways and Transportation Committee

Prepared by Tom Gomez
March 4, 1993

1. Page 26, line 15.
Following: line 14
Insert: "NEW SECTION. **Section 16. Date of compliance.** All equipment existing on or after [the date the governor signs this act] must comply with the provisions of 61-10-107(2) by January 1, 1996."
Renumber: subsequent sections

SENATE HIGHWAYS
EXHIBIT NO. 8
DATE March 4, 1993
BILL NO. HB 294

Amendments to House Bill No. 294
Third Reading Copy

Requested by Representative Larson
For the Committee on Highways

Prepared by Valencia Lane
February 5, 1993

1. Title, line 8.
Strike: "SECTIONS 61-10-101,"
Insert: "SECTION"

2. Title, lines 8 through 11.
Following: "61-10-107," on line 8
Strike: remainder of line 8 through "61-10-105," on line 11

3. Page 1, lines 15 through 22.
Strike: section 1 in its entirety
Renumber: subsequent sections

4. Page 4, line 8 through page 26, line 16.
Strike: sections 3 through 16 in their entirety
Renumber: subsequent section

DATE March 4, 1993

SENATE COMMITTEE ON Highways & Transportation

BILLS BEING HEARD TODAY: HB 232, HB 337, HB 565, HB 295

Name	Representing	Bill No.	Support	Oppose
Col Bob Griffith	Dept of Justice	232	✓	
Bob Walker	FW+P	HB337	✓	
Donald P. Dusek	Dept. of Transportation	HB 295		✓
David S. Johnson	Dept of Tran.	HB295		
M. Korizek	DOC - Tourism	HB 565	X	
Glenna Wortman-Obie	AAA Montana	HB 295	X	
Francis Wright	Neihart MT	HB295	✓	
Donalene O'Neill	109 No H Livingston	HB295	✓	
Charlie Barth	Neihart	HB 295	✓	
J.D. "Sonny" O'Neill	Livingston	HB 295	✓	
C. J. Buskirk	Neihart	HB295	✓	
Linda Ellison	MT Trail Vehicle Riders	HB 337	✓	
Gloria Hermanson	MT Cultural Advocacy	HB 565	✓	
Dennis Unsworth	MDT	HB 295		
Ben Havdahl	MT Motor Carriers	H 232	✓	
Dave Brown	Sponsor - HD #72	HB-337	✓	

VISITOR REGISTER

PLEASE LEAVE PREPARED STATEMENT WITH COMMITTEE SECRETARY

F10

DATE March 4, 1993

SENATE COMMITTEE ON Highways and Transportation

BILLS BEING HEARD TODAY: HB 232, HB 337, HB 565, HB 295

Name	Representing	Bill No.	Check One: Support	Check One: Oppose
Ken Hoovestol	Self	HB-565	X	
Alec Hansen	MLCT	HB 295	✓	
Doug Abelin	Montana Trail Users Ass. Capital Trail Vehicles	HB-337	✓	

VISITOR REGISTER

PLEASE LEAVE PREPARED STATEMENT WITH COMMITTEE SECRETARY

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