The Chronicle of the American Driver and Traffic Safety Education Association

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Ann M. Delling er and and Laurie Beck,
National Center for Injury Prevention and Control

Let's Not Forget the Benefits

Dr. Allen Robinson, CEO

By now you have had an opportunity to read several articles concerning driver education effectiveness. In short, driver education does work. Many parents and teens rely on driver education to learn to drive and obtain their first license. This license provides them an opportunity to be independent, to seek better employment and often to enhance their education. Our society is based on mobility and driver education is a major part of that mobility.

Allen Robinson

The critics of driver education state that driver education causes early licensure. This isn't true since the Department of Motor Vehicles or licensing agency determines when a license is issued. Due to this belief, researchers say that driver education programs do not overcome this early licensing and are therefore ineffective.

We must insist that researchers control for exposure when evaluating driver education. If individuals in the control group are not licensed and therefore don't drive, they will always have fewer crashes and fatalities than the driver education student who has a license and does drive.

Properly planned driver education studies will demonstrate the value of driver education. The recently enacted Reauthorization of the Highway Bill does provide money to: "conduct research on, evaluate and develop best practices related to driver education programs, including driver education curriculum, instructor training and certification, program administration and delivery mechanisms, and

(Robbie continued on page 17)

Changing Times

Elizabeth Weaver Shepard, President

Montana and Wyoming passed Graduated Driver Licensing laws this year. Montana's law will add support to their excellent driver education program. Wyoming currently does not require driver education, however, that will change in September when the new law goes into effect and includes driver education. Graduated Driver Licensing laws are only one part of a continuum of driver education improvement in response to the alarming statistics among our teen drivers.

Elizabeth Weaver Shepard

Driver education has seen many changes over the years. One woman in my office tells of her own driver's ed class more than four decades ago. Her most vivid memory is of the day the teacher planned to show his students how to change a tire. When the time came, he told the boys to meet in the parking lot and told the girls they could just read in the classroom, because if they ever had to change a tire, all they had to do is stand by the road and look helpless.

That story speaks volumes about changing times. No woman in her right mind would willingly stand by the road and look helpless these days. Tires are so improved that most of us have rarely, if ever, had a flat. If we do, we might punch On-Star or reach for a cell phone. And now we are dealing with a generation that has its own set of cultural references, just as our parents did and just as our grandparents probably back to caveman days, when cave dad must have complained to cave mom that these young whippersnappers took fire for granted.

You've probably seen the same list that I have of the references that are familiar to this year's graduating class, most of whom were born after 1986. The Kennedy assassination is truly ancient history to them, and they

(continued on page 15 under Beth)

Editor's Notes

Surprising Facts About Teen Drivers

Joseph Christenson, Coordinator, Toward Zero Death Project

After teaching driver education for over three decades, I have told teens and parents the same "facts" as many of you. When I retired from full time teaching, I took a position as a local Traffic Safety Coordinator for a grant program called Toward Zero Deaths. My primary task as coordinator is to help educate the public in the Princeton, Minnesota community about the local traffic problems and how to reduce the motor vehicle crash rates on one of Minnesota's most dangerous stretches of road.

As a part time driver education teacher in Princeton, I decided to look at the local motor vehicle crash history to help the local teens avoid the area's crash problems. I was so surprised with some of the results I decided to ask Allen Rogers from the Department of Public Safety (DPS) to pull out the teen data for all of Minnesota. The following information is based on Minnesota motor vehicle crash data for the years 1998 through 2002. The crashes examined involved at least one driver 15-19 years of age. The licensing age in Minnesota is 16 with driver education and 18 without driver education.

The first surprise was that the teenagers have many fewer fatal and serious injury crashes compared to a much large number of property damage crashes. Over 65% of all crashes involving teen drivers are property damage crashes while less than 5% are fatal of serious injury crashes. (see Table 1)

Many of us have commented about the feeling teenagers have of being invincible. Maybe there is a reason for them to feel that way since they have many friends and aquantences that have had minor crashes, but personally they know few if any teens that have died in a motor vehicle crash. Let's place greater emphasis on the teaching of the costs of property damage crashes and less on those rare fatal and severe injury crashes. Teens need to realize that they lose the use of their car during repairs and pay for the repairs through higher insurance costs. By emphasis on property damage crashes we might be able to reduce their cost by getting teens to understand how they need to drive to prevent property damage crashes. It might also be easier to demonstrate the impact of a quality driver education program by examining the 65% of crashes teens are having rather than relying on an examination of the rare fatal crashes.

When I presented the data in the next graph at a state meeting, one DPS official opened her copy of Crash Facts to find a contrary statistic. Then several people reminded her that the teen seat belt facts in the Minnesota Crash Facts book referenced fatal crashes and not all of the teen crashes. Teens get a bad reputation because those involved in fatal crashes are not wearing their seat belts, but when we look at the teens involved in minor injury or property damage crashes the use of seat belts is much higher. (see Table 2 & 3 on page 4)

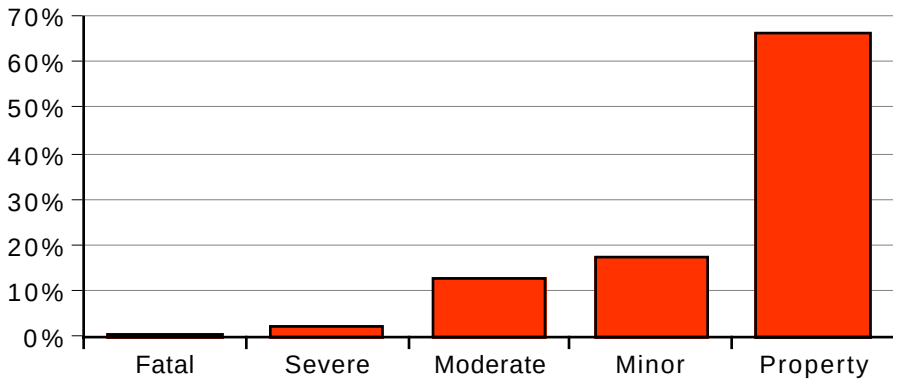
Should we use this information to convince students that people who wear safety belts make less serious errors when the do make errors? It is clear from the laws of physics that wearing a safety belt reduces the severity of injury to the people wearing the belt. Is this another case of using those rare events to generalize to all teenage drivers? Clearly, large numbers of teens are using their safety belts when they are involved in their most frequent type of crash (property damage only) and that is a good thing.

The data about types of collisions teens have are striking. Seventy-one percent of the collisions involving teens were with a vehicle on the same roadway. (see Table 4 on page 4)

Rear end crashes and right angle crashes made up 26% and 20% respectively. If we include left turn crashes at 7%, these three types of are over half of the teen crashes and most could be prevented by maintaining a safe

Table 1

Seriousness of Teen Crashes



(continued on page 4)

Table 2

Teen Seat Belt Use

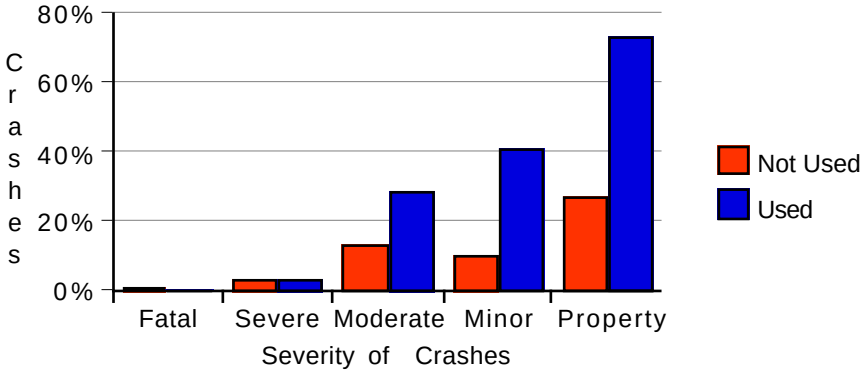


Table 3

Teen Seat Belt Use

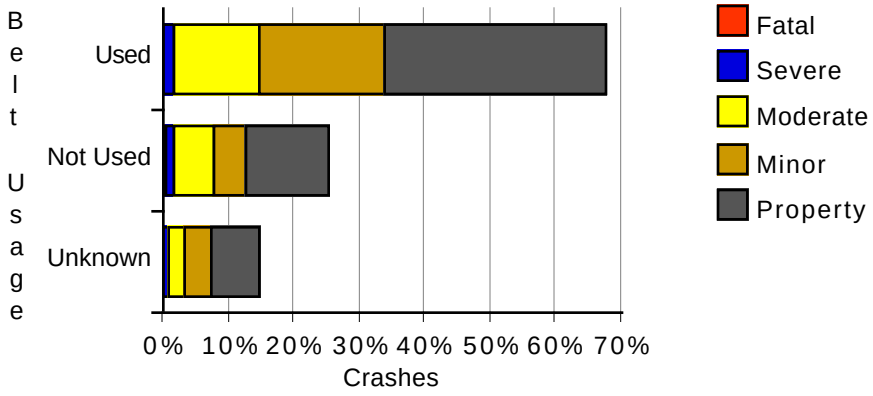
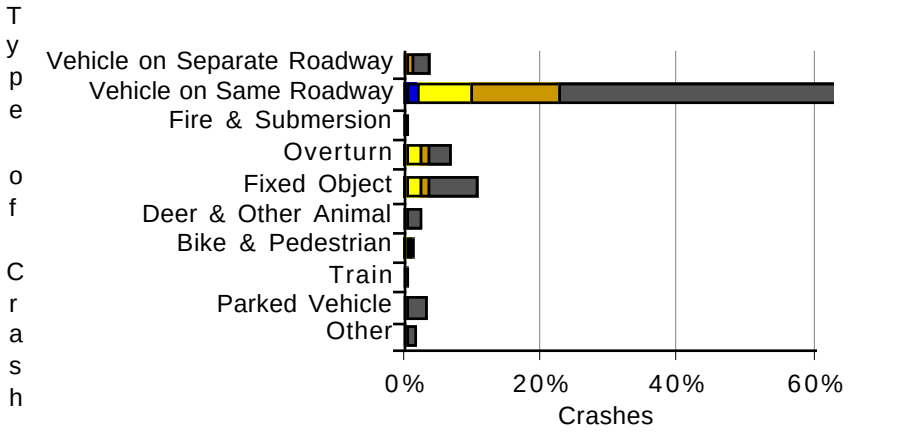


Table 4

Types of Teen Crashes



(continued from page 3)

following distance and yielding the right of way. I suggest an emphasis on how these two simple actions can prevent many crashes. (see Table 5 on page 5)

On Minnesota's crash reports the person filling out the form is asked to give contributing factors. The data in this area includes all drivers involved in a crash with at least one teen driver. Inattention was given in about a quarter (24.8%) of the reported crash factors. . Failure to yield right of way (14.8%), speed (13.5%), inexperience (11%), and following to close (7.4%) round out the top five reported factors. (see Table 6 on page 5)

We need to do more to help our students with visual perception skills and to expand the amount of supervised driving experience. For many years I used a full simulator system and found the students were more experienced in perception than those students that did not have that training. I wish we could provide that experience to all novice drivers without the high cost in smaller schools.

Using newspaper reports of teen traffic deaths as a source, one would think that alcohol impaired driving is a major problem. Many messages aimed at teen drivers strive to get across the "don't drink and drive" message. It appears that most teens already are following that message. Physical impairment is the factor that would include alcohol use along with other factors but only was listed 1.9% of the time. Distractions including cell phones or setting the radio account for one tenth of one percent of the factors. Many of the public messages are aimed at issues that are

(more on page 5)

(from page 4)

Table 5

Teen Crash Diagram

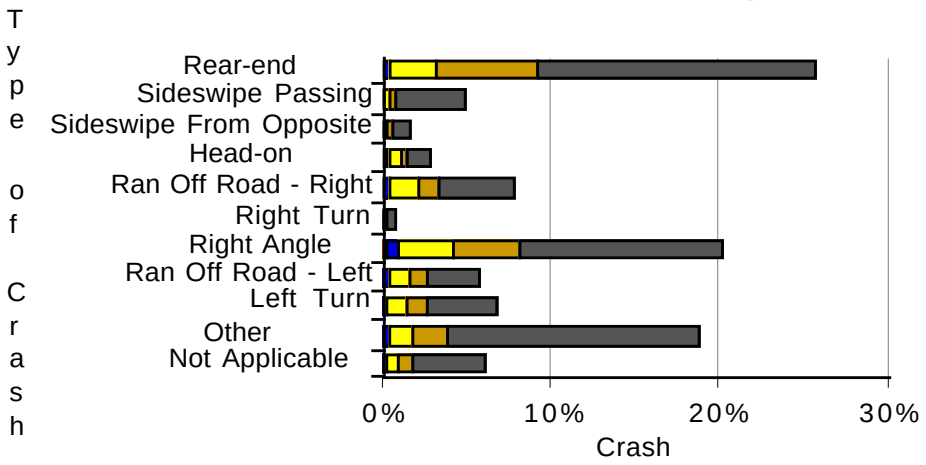
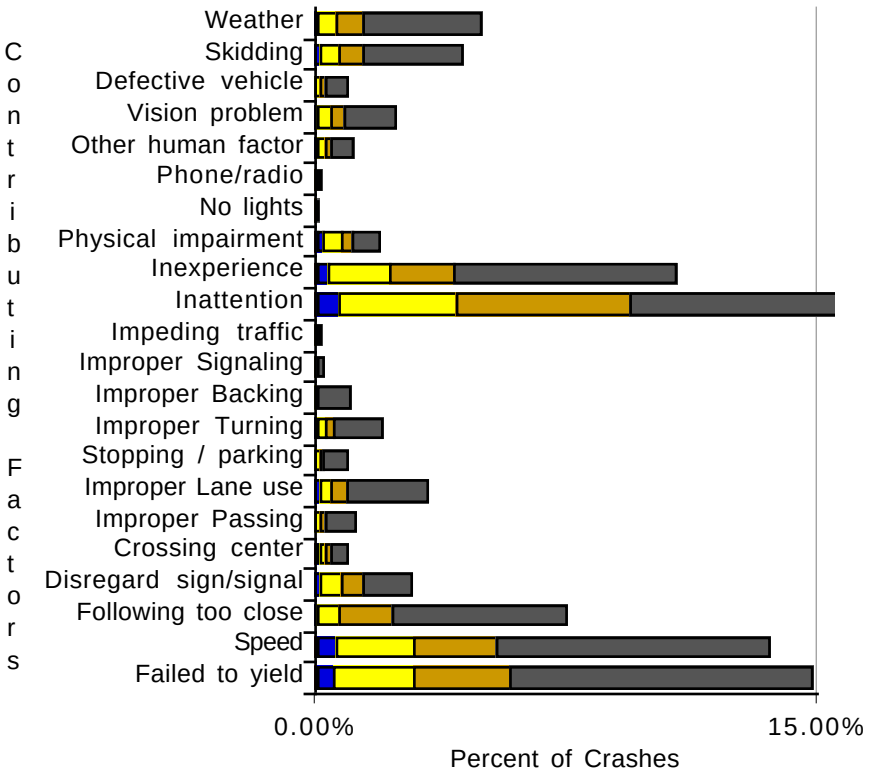


Table 6

Teen Crash Factors Identified



not major problems for teen drivers. In the majority of crashes inattention and failure to yield the right of way are more important than the crashes given high visibility in the media. More media coverage should be directed at what are the real contributing factors for teen crashes. (see Table 7 on page 13)

In most graduated drivers license programs, young drivers are restricted from driving late at night. In Minnesota we don't have that restriction. According to the data, teen drivers had less than eight percent (7.8) of their crashes in the quarter of the day from midnight until 6:00 am. It is true that about forty percent (39.9%) of the crashes during this time involve injuries. Sleep research has shown that the sleep cycle of teens and young adults is altered compared to other age groups. Until about 9:00 am teens' brains are not awake. Notice the large number of crashes (12.3%) between 6:00 and 9:00 am. The teen sleep cycle also has a sleep latency period around 3:00 pm. Notice that the peak in crashes also happens around 3:00. Between 2:00 and 5:00 pm about thirty percent (29.0%) of the crashes happen. It would make more sense to restrict provisional license drivers from driving to and from school. This may also be easier to monitor than the midnight to 5:00 am restriction especially in schools with parking permits. (see Table 8 on page 13)

In conclusion adjustments need to be made in how we examine and report on the teenage motor vehicle crash problem. Whether we are talking with the media, policy makers, parents and teenagers our comments need to be based on the real motor vehicle crash problem not the crash problem based on fatal crashes only. The "drive to stay alive" and "don't drink and drive" messages are not internalized by teens because they do not match their view of reality a view that is not that far removed from reality. More messages should be about how following safe distances, paying attention, respecting other drivers' right of way, and showing courtesy can prevent crashes. Emphasis should be on how preventing all crashes will reduce losses in time, pain and money.

(continued on page 13)

Driver Licensing Suggestions

Warren P. Quensel Assistant Professor Emeritus Illinois State University

There are three basic principles behind these suggestions:

- there is the need to establish an effective screening device for identifying those persons who are unfit to be given the privilege to drive;
- The beginning driver should be required to spend the necessary time and effort to become qualified for a license;
- A program needs to be established which will motivate a licensed driver to maintain a safe driving record.

The minimum age for obtaining an instruction permit shall be 16.

If we adhere to the concept that a person should demonstrate sufficient skill and knowledge for the safe performance of the driving task, then the minimum age requirement should apply to the instruction permit rather than the regular operator's license. This provision should discourage many young people from learning to drive illegally so that they might obtain a driver license the very day they become eligible for one.

Based on the experience of teachers and studies on growth and development, no you under the age of sixteen should be eligible for an instruction permit. The term "silly sophmores" did not come about by chance. Therefore, any formal or informal driver training provided should have a better chance for influencing behavior patterns at the junior year rather than the sophmore year.

In today's society, there are really no valid reasons for 15 and 16 year olds to drive on their own. These young teenagers now use cars primarily for cruising around, and in many cases, they use cars for illegal activities such as drug abuse. The reason for working is more apt to be for supporting the use of a car which usually results in lower grades. This age group just does not appear ready to begin making the judgements required by the driving task.

The instruction permit shall be held for a period of six months.

To become a competent and responsible driver of a motor vehicle requires that a person spend considerable time and effort learning the necessary laws, safe driving practices, and traffic solving skills. After all, driving is primarily a mental and social task. Therefore, all beginning drivers need sufficient time to practice drive a minimum of one hundred hours with licensed drivers.

Beginning drivers under the age of twenty years shall be required to spend six months practicing under the supervision of experienced drivers. In this period of time, teenagers should be able to gain the necessary experiences for handling most of the traffic situations they will face as a licensed driver. They will have also sufficient time to reflect on the responsibilities involved.

This requirement is also based on the recognition, by both young people and teachers, that the formal training sessions now provided are just not adequate. It would provide a greater incentive for parent involvement. And, most important, there would be little or no incentive for the "quickie courses" that focus mostly on how to pas the official road test.

An approved driver education course is required.

All beginning drivers must have completed satisfactorily an approved driver education course in order to become eligible to obtain an operator's license. Course standards and teacher qualifications shall be established and administered by the appropriate governmental department.

A standardized road test shall be included as a part of the approved course. Most current on-road tests are maneuver oriented, and are more measures of basic operational skills along with the application of traffic laws. So, they fall short of measuring the safe driving skills of perceiving and responding to traffic situations. A record of such tests shall be maintained on file for a period of five years.

The first driver license shall be provisional.

The first regular operator's license, issued at any age, shall be provisional or probationary. It shall be limited to a period of two years. The driver licensing department shall establish and administer the required provisions.

During the first two years of driving, a driver's record should be looked at carefully to determine what bad habits and attitudes are being practiced. Suspensions and assignments to driver clinics need to be authorized when the record warrants. This is the time when a driver improvement program can have the greatest psychological impact.

Official research and evaluation reports are required.

An official traffic safety research board should be established with representatives form appropriate governmental agencies and at least one university. This board should be adequately financed and authorized to conduct a program of research and continuous evaluation.

The data collection system should be improved to provide better objective information for measuring specific enforcement and educational programs. The board shall make regular reports to the legislature and departments involved with traffic safety activities. These can serve as a basis

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Study Asks: Do Media Run Older Drivers Off the Road?

**Provided by Desmond O'Neill, Associate Professor,
Department of Medicalgerontology,
Adelaide and Meath Hospital, Dublin, Ireland**

Drivers over the age of 65 are the safest drivers of any age group. Even the commonly cited statistic of a higher risk of crash per kilometer among this group has been shown to be an artifact: low mileage is intrinsically risky, and studies show that when this is controlled for, the older drivers perform as well as, if not better than, younger drivers (Transportation Research Part F: Traffic Psychology and Behaviour 2002; 5:271-4).

Despite this evidence many European governments have enacted restrictive legislation directed at them. The negative perception extends to the American Medical Association's 2003 guideline Assessing Fitness to Drive in Older People. Although the guideline is clinically useful, its preface still emphasizes the "risk" posed by older drivers. Much of the literature on older people's medical fitness to drive concentrates on risk rather than mobility.

Might a negative image of elderly drivers in the media be an important factor in shaping public and medical opinion on the issue?

To help answer this question we searched the electronic archives of 15 UK and Irish national and regional newspapers from January 1999 to May 2004 for references to older drivers. We assessed whether the articles were negative or positive to older drivers or balanced. We identified 51 relevant articles, of which we independently judged 17 to be negative, four positive, and 30 even handed.

When we excluded brief reports on fatal crashes, we found the results for opinion or editorial articles to be 15 negative, four positive, and seven balanced. Headlines included "Keep the over-50s off our M-ways," "Old dear trashes 7 cars," "MP calls for old to get special licenses," "Silly old buggy," and "Fanatic speed cop targets old folk."

Newspaper reporting of issues relating to older drivers in the United Kingdom and Ireland is largely negative in content and is at variance with the evidence. The potential consequences of such representation are to distort the political and societal context within which doctors practice medicine and promote healthy aging.

The media reflect and shape public opinion. In particular, the media can influence the public's perception of health related issues. One example is the inordinately high level of success with cardiopulmonary resuscitation in television series such as ER (New England Journal of Medicine 1996; 334:1578-82).

This leaves professionals with two tasks. Firstly they need to be mindful of such prejudices when dealing with individual patients. When they are discussing resuscitation with their patients they should consider the unrealistic survival rate of cardiopulmonary resuscitation portrayed on television.

So too, when discussing driving ability with older patients—and in particular with their relatives—doctors need to take into account the negative perception of older drivers among the general public and to strive to ensure that the mobility of older people is not prematurely and unnecessarily curtailed.

The second task is for our professional bodies—doctors, geriatricians, transport planners—to work with journalists and opinion formers to educate them and make them aware that the major concern with transport and health for older people is usually access to transport rather than the imagined threat that older drivers represent to other road users.

The Organization for Economic Cooperation and Development has recommended just such an approach (Ageing and Transport: Mobility Needs and Safety Issues, 2001), emphasizing the need for information campaigns that prioritize mobility over risk. New medical curriculums are already well oriented to social and behavioral sciences; a brief taste of media studies may help doctors understand and combat negative perceptions among the public that shape their work environment. (arhc@amnch.ie; Alan Martin, registrar; Lucy Balding, house officer. BMJ VOLUME 330 12 FEBRUARY 2005 bmj.com }

Editor Asks: Do Media Run Younger Drivers Off the Road?

To paraphrase some of the statements form the previous article. Much of the literature on teen's fitness to drive concentrates on risk rather than mobility. Even the commonly cited statistic of a higher risk of crash per kilometer among teen drivers has been shown to be an artifact: low mileage is intrinsically risky, and studies show that when this is controlled for, the risk drops. Might a negative image of teen drivers in the media be an important factor in shaping public opinion on the issue?

The study of media reports and teenage drivers has not been done, but the editor believes that most of the findings from the study on media reporting on older drivers will be the same findings for teen drivers.

More Responses to Renaissance of Driver Education? from *Injury Prevention*

Contributed by Vanessa.Wigand@doe.virginia.gov

My response...

Why is IIHS such a staunch critic of driver education programs? Drivereducationdoes provide students with tangible basic driving skills. To suggestdriver educationis a way to "crash proof" novice drivers is just silly.

While IIHS focus ison engineering safer cars, there is still a need to address safer road user behaviors through enhanced enforcement, education, reinforcement, and graduated licensing legislation.

Cars don't crash, PEOPLE crash cars. We teach civics--many people don't vote. We teach nutrition ómany people don't eat balanced diets. We teach the essential knowledge and skills needed to manage driving risks--many teenagers (and older experienced drivers) still take unnecessary risks.

How do you temper the heady mix of youth, mechanical power, and newly-discovered freedom? How do you counteract the effects of young drivers' role models who are drunk, enraged, unbelted drivers? We don't know do we!

Have you looked at the data (Texas, Colorado, etc.) to see the difference between the crash rates of parent-taught and formal driver education programs?

Here's the fatality data for VA.

Age	2003	2004
15	9	5
16	19	21
17	31	30
18	22	29
19	26	38
Total	107	123

It's interesting to note that most of the 16-year-old fatalities were passengers and the data also shows older teens' crash rates are significantly higher than younger teens'' rates. DO these older, experienced drivers: drive more? Maybe. Gain a few years of experience and take more risks? Maybe. Have less parent involvement? Maybe. All of the above? Maybe!

Think about it. Where can you experience the sensation of power, "rock out" in a chair that adjusts to fit every curve on your body, talk on the phone, eat, drink, and act irresponsibly (and sometime violently) in public and still have the illusion of anonymity? Have you hugged your car today? Now throw in youthful risk taking, thrill-seeking behavior with little to no adult supervision, and yes we have a tragedy in the making.

I would like to invite you to visit our classrooms/driver education vehicles to shadow some our students so you can observe firsthand their skill acquisition. You will have the opportunity to see the difference between an educated and a clueless driver.

Please don't encourage throwing the baby out with the bath water. I have nodesire toshare the road with under educated drivers!

Contributed by Duncan Marshall, Road Safety Officer, Shoalhaven City Council, Australia

I found the article by Williams and Ferguson because it was approvingly referenced in an official 3-page statement on "Road Safety Outcomes from Driver Training and Driver Education Programs" from the NSW Roads and Traffic Authority.

Airline pilots and medical practitioners are stimulating comparisons to drivers, who also hold lives in their hands. Certainly secretaries and even hairdressers are better prepared and assessed than drivers.

Why are drivers failing the real driving after the short tests? The short answers are cutting corners reduces safety driver education on the cheap is not sufficiently effective novice drivers are ill-prepared to cope with risk-choices, hazards and emergencies because of inadequacy in information, understanding, motivation, and moderated experienc "So, let's not ask or argue who's fault it is, let's fix it!!" That is the community response which I am heeding. "We want more preparation of our young drivers, in attitude and understanding, even before they start the skills phase."

Graduated licensing schemes are a part of the answer. Extended (appropriately) supervised driving experience and some limits during the early stages are further parts.

In this state's legislation, parents have the prime responsibility and right at law to educate their children. Unless they exercise that right directly or through a private school, the role is taken up by the state.

Perhaps we should write to the relevant authorities controlling driver education & licensing standards....

Dear departmental officers and politicians,

You know that we have a massive problem with deaths on our roads. Novice drivers have very high crash involvement, and others also fail the practical test of safe driving. It appears that you feel it would be politically unacceptable to require adequate training before putting people in control of these weapons of self and mass destruction (motor vehicles).

However, please do not deny that adequate training could be effective. Other spheres of life indicate that more education in the fullest sense would be useful.

Better assessment and repeated assessment would be better.

It would cost the community money,

(Continued on page 13)

Abstracts from the *Journal of Safety Research*

Volume 36, Issue 2 , 2005, Pages 195-201

Is road rage increasing? Results of a repeated survey

Reginald G. Smart a, , , Robert E. Manna, b, Jinhui Zhao a and Gina Stoduto a

aSocial, Prevention & Health Policy Research Department, Centre for Addiction and Mental Health, Ontario, Canada bDepartment of Public Health Sciences, Faculty of Medicine, University of Toronto, Canada

Problem: We report on trends in road rage victimization and perpetration based on population survey data. Method: Based on repeated cross-sectional telephone surveys of Ontario adults between July 2001 and December 2003, logistic regression analyses examined differences between years in road rage victimization and perpetration in the previous year controlling for demographic characteristics. Results: The prevalence of any road rage victimization in the previous year decreased significantly from 47.5% in 2001 to 40.6% in 2003, while prevalence of any road rage perpetration remained stable (31.0% to 33.6%). Logistic regression analyses revealed that the odds of experiencing any road rage victimization was 33% higher in 2001 and 30% higher in 2002, than in 2003. Discussion: Survey data provide a valuable perspective on road rage trends, but efforts to track road rage incidents is also needed. Summary: In Ontario, the proportion of adults experiencing any road rage victimization decreased from 2001 to 2003 while the proportion reporting any road rage perpetration remained stable.

Volume 36, Issue 2 , 2005, Pages 121-131

Effects of two doses of methylphenidate on simulator driving performance in adults with attention deficit hyperactivity disorder

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cDepartment of Psychiatry, University of Massachusetts Medical School, Worcester, MA, United States

dDepartment of Mental Health, Commonwealth of Massachusetts, Worcester, MA, United States

Introduction: Numerous studies have documented an increased frequency of vehicular crashes, traffic citations, driving performance deficits, and driving-related cognitive impairments in teens and adults with attention deficit hyperactivity disorder. Method: The present study evaluated the effects of two single, acute doses of methylphenidate (10 and 20 mg) and a placebo on the driving performance of 53 adults with ADHD (mean age = 37 years, range = 18–65) using a virtual reality driving simulator, examiner and self-ratings of simulator performance, and a continuous performance test (CPT) to evaluate attention and inhibition. A double-blind, drug-placebo, within-subjects crossover design was used in which all participants were tested at baseline and then experienced all three drug conditions. Results: A significant beneficial effect for the high dose of medication was observed on impulsiveness on CPT, variability of steering in the standard driving course, and driving speed during the obstacle course. A beneficial effect of the low dose of medication also was evident on turn signal use during the standard driving course. An apparent practice effect was noted on some of the simulator measures between the baseline and subsequent testing sessions that may have interacted with and thereby obscured drug effects on those measures. Conclusions: The results, when placed in the context of prior studies of stimulants on driving performance, continue to recommend their clinical use as one means of reducing the driving risks in ADHD teens and adults. Impact on industry: Given the significantly higher risk of adverse driving outcomes associated with ADHD, industry needs to better screen for ADHD among employees who drive as part of employment so as to improve safety and reduce costs. Use of stimulants to treat the adult ADHD driver may reduce safety risks.

Volume 36, Issue 2 , 2005, Pages 109-119

Graduated driver licensing research in 2004 and 2005

James Hedlund, a and Richard Compton b

aHighway Safety North, United States

bNational Highway Traffic Safety Administration, United States

This is the second update of research on graduated driver licensing (GDL) and teenage drivers. It briefly summarizes research in progress and research published since the January 2004 update (Hedlund, J. & Compton, R. (2004). Graduated driver licensing research in 2003 and beyond. Journal of Safety Research 35 (1), 5–11). Research has been very active, especially on teenage driver risk factors, GDL program evaluations, the role of parents in

(continued on page 10)

(from page 9)
managing and training their teenage drivers, and driver education. Results have strengthened the case for GDL, for nighttime and passenger restrictions, and for extended supervised driving practice.

Abstracts from:
Accident Analysis & Prevention
Volume 37, Issue 4 , July 2005, Pages 613-618
Self-rated driving performance among elderly drivers referred for driving evaluation

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bEpidemiology and Biometry Core, Graduate Program in Public Health, Eastern Virginia Medical School

Purpose: To explore whether elderly drivers of varying driving skill levels (1) differ in their perception of their driving evaluation performance and (2) determine if self-rated driving evaluation performance is related to cognitive ability.

Methods: One hundred and fifty-two drivers aged 65 years or older and referred for a driving evaluation were enrolled into the study. Subjects were asked the question, "how well do you think you will perform today on your driving evaluation compared to others your own age?" Subjects also completed the Mini-Mental State Exam and a 30-min drive on a STISIM Drive™ simulation (Systems Technology, Inc., Hawthorne, CA). Only 47 subjects completed both the simulated drive and self-rated item.

Results: Sixty-five percent of drivers rated themselves as performing better on a driving test than others of their age. Another 31.9% felt they would perform the same as others of their age on a driving test. A 50.0% of those considering themselves "a little better" and 52.9% of those considering themselves "a lot better" had an unsafe driving performance. As self-rated driving evaluation performance increased, there was a significantly increased risk of unsafe driving ($p = 0.02$) in the study population. Drivers who considered themselves at least a little better than others of their age were over four times more likely to be unsafe drivers compared to others who believed they were comparable to or worse than other drivers of their age (RR = 4.13, 95% CI = 1.08–15.78). There was no significant difference in MMSE between self-rating groups ($p = 0.76$).

Conclusion: Older drivers assign high ratings to their driving performance, even in the presence of suspected skill decline. Cognitive ability was not related to self-rated driving evaluation performance.

Volume 37, Issue 3 , May 2005, Pages 523-529
Voluntary risk taking and skill deficits in young driver accidents in the UK

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In absolute terms, young drivers have three to four times as many accidents per year as older drivers; and even allowing for their relative numbers in the population, their accident involvement is about 2.5 times higher than older drivers.

A sample of 3437 accident reports was considered, including 1296 in detail, from midland police forces in the UK, involving drivers aged 17–25, and covering the years 1994–1996 inclusive. Four types of accident were identified as being of particular concern due to their high frequency: ‘cross-flow’-turns; rear-end shunts; loss of control on bends; and accidents in darkness. (The term ‘cross-flow’ is used in relation to turns to denote an intersection accident where a driver is turning across the path of oncoming traffic, i.e., left turns in the US and continental Europe, but right turns in the UK and other countries where driving on the left side of the road is the norm.)

An examination of driver risk taking behaviours as revealed in police interviews gave an insight into some of the motivational factors underlying young driver behaviour. Young driver accidents of all types are found to be frequently the result of ‘risk taking’ factors as opposed to ‘skill deficit’ factors. It had previously been thought that one of the main problems that young drivers have is in the area of specific skills needed in the driving task. However, it appears that a large percentage of their accidents are purely the result of two or three failures resulting from voluntary risk taking behaviour, rather than skill deficits per se. It is shown that specific groups of young drivers can even be considered as above average in driving skills, but simultaneously have a higher accident involvement due to their voluntary decisions to take risks.

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Volume 37, Issue 3 , May 2005, Pages 473-478

Fatigue, sleep restriction and driving performance

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We ran a randomized cross-over design study under sleep-deprived and non-sleep-deprived driving conditions to test the effects of sleep restriction on real driving performance. The study was performed in a sleep laboratory and on an open French highway. Twenty-two healthy male subjects (age = 21.5 ± 2 years; distance driven per year = 12,225 ± 4739 km (7641 ± 2962 miles) [mean ± S.D.]) drove 1000 km (625 miles) over 10 h during five 105 min sessions on an open highway.

Self-rated fatigue and sleepiness before each session, number of inappropriate line crossings from video recordings and simple reaction time (RT) were measured. Total crossings increased after sleep restriction (535 crossings in the sleep-restricted condition versus 66 after non-restricted sleep (incidence rate ratio (IRR): 8.1; 95% confidence interval (95% CI): 3.2–20.5; $p < 0.001$)), from the first driving session. The interaction between the two factors (condition ¥ time of day) was also significant ($F(5, 105) = 3.229$; $p < 0.05$). Increasing sleepiness score was associated with increasing crossings during the next driving session in the sleep-restricted (IRR: 1.9; 95% CI: 1.4–2.4) but not in the non-restricted condition (IRR: 1.0; 95% CI: 0.8–1.3). Increasing self-perceived fatigue was not associated with increasing crossings in either condition (IRR: 0.95; 95% CI: 0.93–0.98 and IRR: 1.0; 95% CI: 0.98–1.02).

Rested subjects drove 1000 km with four shorts breaks with only a minor performance decrease. Sleep restriction induced important performance degradation even though time awake (8 h) and session driving times (105 min) were relatively short. Major inter-individual differences were observed under sleep restriction. Performance degradation was associated with sleepiness and not fatigue. Sleepiness combined with fatigue significantly affected RT. Road safety campaigns should encourage drivers to avoid driving after sleep restriction, even on relatively short trips especially if they feel sleepy.

Volume 37, Issue 3 , May 2005, Pages 427-433

Drug use and the severity of a traffic accident

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Several studies have showed that driving under the influence of alcohol and/or certain illicit or medicinal drugs increases the risk of a (severe) crash. Data with respect to the question whether this also leads to a more severe accident are sparse. This study examines the relationship between the use of alcohol, illicit drugs and/or medicinal drugs and the severity of an accident within a group of drivers that were involved in a crash in The Netherlands. Blood samples of 993 drivers, collected in the period from October 1998 through September 1999, were linked to accident characteristics as available from the National Transport Research Centre. The outcome measure was the severity of the accident. An accident was considered severe when the accident had resulted in hospital admission or death. All the blood samples obtained after the accident were screened for the presence of alcohol, illicit drugs (opiates, amphetamines and amphetamine-like substances, cocaine and metabolites, methadone, cannabinoids) and medicinal drugs (benzodiazepines, barbiturates and tricyclic antidepressants). The strength of the associations between exposure to the different classes of alcohol/drugs/medicines and the severity of the accident was evaluated using logistic regression analysis and were expressed as odds ratios (OR), adjusted for age, gender, time of the day, day of the week and urban area. The most frequently detected drugs were cannabinoids, benzodiazepines and cocaine. Our results showed no clear association between the use of alcohol, illicit drug and/or medicinal drug use and the severity of the accident. Given the process of obtaining blood samples from drivers involved in accidents and the retrospective nature of the study, we cannot rule out the occurrence of selection bias. Therefore, our findings need further confirmation.

(continued on next page)

(from page 5)

Table 7

Teen Fatal vs Non-Fatal

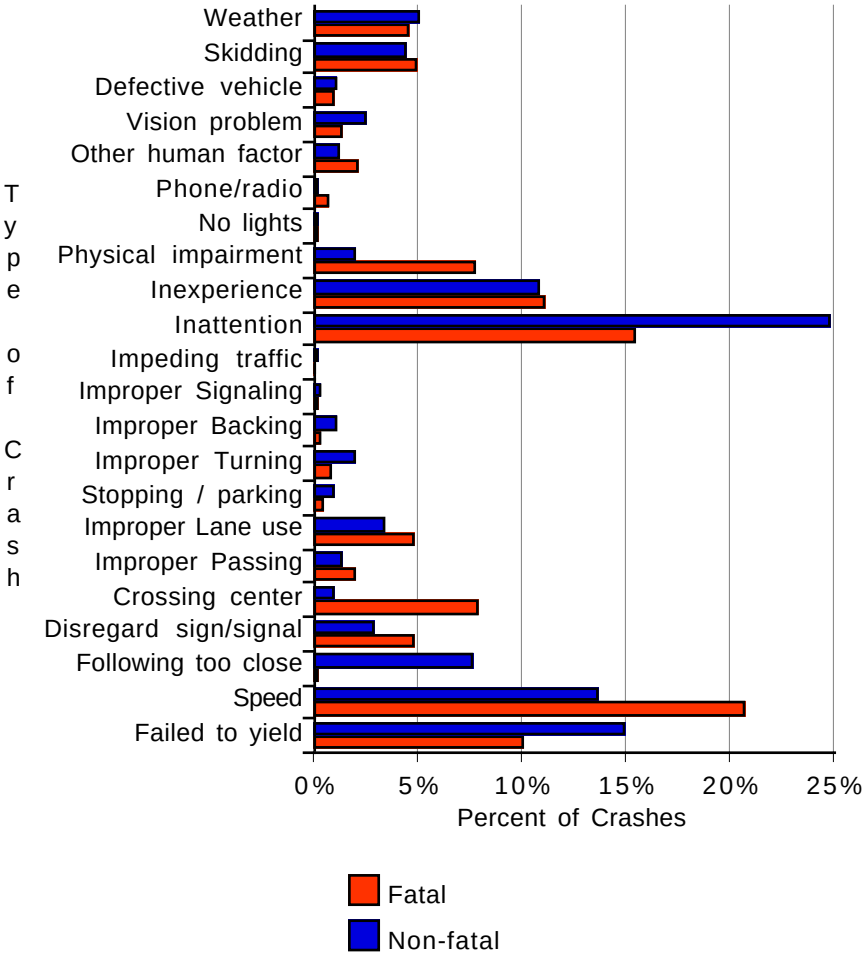
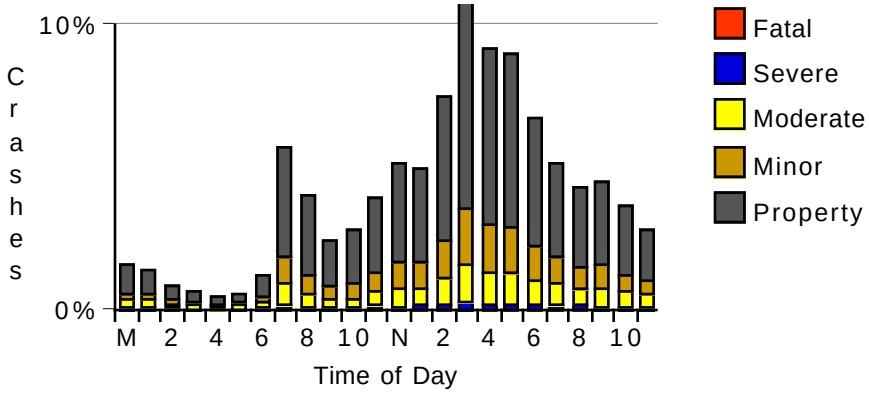


Table 8

Time of Crash



(More Robbie from page 2)

make recommendations for harmonizing driver education and multistage graduated licensing systems." This legislation is a significant step in supporting what all of you do every day in driver education. ADTSEA will work closely with NHTSA and as these activities are planned and implemented, we will make every attempt to keep you informed of this program.

You can help by providing ADTSEA with your e-mail address. When your address changes, be sure and notify us. Electronic updates to our members will be provided as appropriate. Please help us better communicate with you.

If you haven't already done so, read and download the articles on the ADTSEA web page concerning young drivers. This information will help you answer critiques of driver education.

A special thanks goes out to all of you who have registered for the ADTSEA Conference in Honolulu. We already have the largest number of registered participants and spouses ever recorded since IUP began managing ADTSEA.

(Quensel from page 6)

for making better decisions by government officials. It will also provide better accountability.

It is hoped that those interested in or responsible for traffic safety programs will give these suggestions serious consideration. They certainly will provide for more adequate training and experience for beginning drivers before they are licensed to drive solo. With proper support, they are probably politically feasible.

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Volume 37, Issue 2 , March 2005, Pages 341-348

Driving anger, sensation seeking, impulsiveness, and boredom proneness in the prediction of unsafe driving

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The present study investigated the potential contribution of sensation seeking, impulsiveness, and boredom proneness to driving anger in the prediction of aggressive and risky driving. Two hundred and twenty-four college student participants completed measures of trait driving anger, aggressive and risky driving, driving anger expression, sensation seeking, impulsiveness, and boredom proneness. Findings provided additional support for the utility of the Driving Anger Scale (DAS; Deffenbacher, J.L., Oetting, E.R., Lynch, R.S., Development of a driving anger scale, Psychological Reports, 74, 1994, 83–91.) in predicting unsafe driving. In addition, hierarchical multiple regression analyses demonstrated that sensation seeking, impulsiveness, and boredom proneness provided incremental improvements beyond the DAS in the prediction of crash-related conditions, aggressive driving, risky driving, and driving anger expression. Results support the use of multiple predictors in understanding unsafe driving behavior.

Volume 37, Issue 2 , March 2005, 335-339

Suicidal ideation, antidepressive medication and car crash injury

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Objective: This study aimed to investigate the association between suicidal ideation, antidepressive medication and the risk of a car crash resulting in serious injury.

Design: This was a population-based case-control study. Cases were car drivers who were involved in crashes in which at least one occupant of their car was hospitalised or killed. Controls were selected using a cluster random sample of car drivers on the roads in the same region. Self-reported information on suicidal ideation in the 12 months prior to the crash or roadside survey, current usage of antidepressive medication as well as other crash-related risk factors was obtained from the drivers, or by proxy, using an interviewer-administered questionnaire.

Setting: The study was conducted in the Auckland region of New Zealand in 1998 and 1999.

Results: There was a significant association between drivers who had suicidal ideation but without current antidepressive medication and the risk of an injury crash (OR = 4.16, 95% CI = 2.14–8.10), when compared to drivers without any suicidal ideation.

Conclusion: The risk of an injury crash was significantly increased for those drivers who reported to have previous or current suicidal ideation but without current antidepressant medication.

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Post-licence driver education: a systematic review of randomised controlled trials

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The effectiveness of post-licence driver education for preventing road traffic crashes was quantified using a systematic review and meta-analyses of randomised controlled trials. Searches of appropriate electronic databases, the Internet and reference lists of relevant papers were conducted. The searches were not restricted by language or publication status. Data were pooled from 21 randomised controlled trials, including over 300,000 full licence-holding drivers of all ages. Nineteen trials reported subsequent traffic offences, with a pooled relative risk of 0.96 (95% confidence interval 0.94, 0.98). Fifteen trials reported traffic crashes with a pooled relative risk of 0.98 (0.96, 1.01). Four trials reported injury crashes with a pooled relative risk of 1.12 (0.88, 1.41). The results provide no evidence that post-licence driver education is effective in preventing road injuries or crashes. Although the results are compatible with a small reduction in the occurrence of traffic crashes, this may be due to selection biases or bias in the included trials. (more on page 14)

Abstract from:
Accident Analysis & Prevention
Volume 37, Issue 3 , May 2005, Pages 461-472
Towards a general theory of driver behaviour
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Taylor [Taylor, D.H., 1964. Drivers' galvanic skin response and the risk of accident. Ergonomics 7, 439–451] argued that drivers attempt to maintain a constant level of anxiety when driving which Wilde [Wilde, G.J.S., 1982. The theory of risk homeostasis: implications for safety and health. Risk Anal. 2, 209–225] interpreted to be coupled to subjective estimates of the probability of collision. This theoretical paper argues that what drivers attempt to maintain is a level of task difficulty. Näätänen and Summala [Näätänen, R., Summala, H., 1976. Road User Behaviour and Traffic Accidents. North Holland/Elsevier, Amsterdam, New York] similarly rejected the concept of statistical risk as a determinant of driver behaviour, but in so doing fell back on the learning process to generate a largely automatised selection of appropriate safety margins. However it is argued here that driver behaviour cannot be acquired and executed principally in such S-R terms. The concept of task difficulty is elaborated within the framework of the task–capability interface (TCI) model, which describes the dynamic interaction between the determinants of task demand and driver capability. It is this interaction which produces different levels of task difficulty. Implications of the model are discussed regarding variation in performance, resource allocation, hierarchical decision-making and the interdependence of demand and capability. Task difficulty homeostasis is proposed as a key sub-goal in driving and speed choice is argued to be the primary solution to the problem of keeping task difficulty within selected boundaries. The relationship between task difficulty and mental workload and calibration is clarified. Evidence is cited in support of the TCI model, which clearly distinguishes task difficulty from estimates of statistical risk. However, contrary to expectation, ratings of perceived risk depart from ratings of statistical risk but track difficulty ratings almost perfectly. It now appears that feelings of risk may inform driver decision making, as Taylor originally suggested, but not in terms of risk of collision, but rather in terms of task difficulty. Finally risk homeostasis is presented as a special case of task difficulty homeostasis.

Various Studies
Now Under Way in Australia
Australian researchers are pursuing a research agenda, managed by the Monash University Accident Research Centre in Melbourne.
Among the projects:

***Influence of chronic illness on crash involvement of motor vehicle drivers"**--Research Team: Charlton, J., Koppel, S., O'Hare, M., Andrea, D., Smith, G., Khodr, B., Langford, J., Odell, M. and Fildes, B. This project called for a systematic review of the evidence for the influence of chronic illness and impairments on crash involvement of motor vehicle drivers. Eight conditions were found to have at least a moderately elevated risk of crash involvement (relative risk greater than 2.0) compared with their relevant control group. These were alcohol abuse and dependence, dementia, epilepsy, multiple sclerosis, psychiatric disorders (considered as a group), schizophrenia, sleep apnoea, and cataracts. The full report is available on www.general.monash.edu/muarc MUARC Report 213.

***Visual search strategies among older and younger drivers**---Research team: Fildes, B., Charlton . J.L., Koppel, S., Andrea, D., (MUARC), Hammer, M. (Holden) This study investigated visual scanning and driving performance of 20 young (25-35 years) and 20 older (65-75 years) drivers in a high-level driving simulator that incorporated a range of complex and hazardous events known to be associated with older driver crashes.

Preliminary results indicate that older drivers respondedto hazardous events by travelling at a slower speed than younger drivers. They had a broader scanning pattern than younger drivers both laterally and vertically, were significantly slower in first fixating the hazard, spent less time looking at the hazard and a greater percentage of time looking at the speedometer. Further analyses will be conducted and follow up studies are planned to explore the impact of visual impairments on driver scanning and the usefulness of the methodology for evaluating vehicle and road design and ITS applications for older drivers and drivers with vision impairment.

(Beth from page 2)

don't remember the Challenger space shuttle blowing up. Their indelible memory will probably be the terrorist attacks of 9/11 – at least, I hope that will be their indelible memory, because if it isn't, it means something far worse will happen. Last spring's seniors have never owned a record player and may have never seen a black-and-white television. As far as they know, the Tonight Show has always been hosted by Jay Leno. And don't all telephones come with answering machines? And doesn't everyone carry a cell? And doesn't everybody shop on E-Bay? They have grown up not having a clue what polio is, but always knowing about AIDS.

Driver's education is not immune to these changes. The continuum of improvement has included establishment of national minimum standards, improved qualifications for instructors, new curriculum content requirements, new expectations for driver performance, and new instructional supportresources. Idaho has risen to the need for change and has established all of the above for public school driver education.

Driver's education adheres closely to what is happening everywhere else in public education. Educations look to educate the whole child, not just the child who is going to be tested in the areas of math and language arts required by the federal No Child Left Behind Act. That whole child might be the budding athlete, the computer geek, the struggling reader, the math whiz, the movie star wannabe, and the youngster who can hardly wait to drive. All of them come to us to be nurtured and educated. All of our investments in math, science, social studies, and so on, will be meaningless unless our students are safe. That means safe at school and safe on the road. Driver education is not just about teaching young drivers how to control a vehicle. It covers the spectrum from basic laws to the physics of motion, to communication, social interaction, time and space management, and decision-making.

Teens come to you after as few as 15 years of passenger experience. During that time they have probably witnessed the best and worst of driving, and the behaviors they have seen will have a large impact on their attitudes about what it means to be behind the wheel. If they come to you from seeing near misses, running traffic lights, speeding – and getting away with it – and the other careless habits of driving, then that will be their standard. Your work is doubled: not only must you undo those attitudes, but you must build new ones. It's a big assignment. You steer these youngsters through congested traffic, road construction projects, drowsy or aggressive drivers, and other threats. Your biggest challenge is to teach the knowledge, skills, and attitudes needed to survive on today's roadways. We drive on roads where speed limits are higher than they were not too many years ago. Our cars are smaller, faster, and increasingly more complex. My children, and certainly my grandchildren, are experts at multi-tasking. When they are on the road, I want them to be as careful as they can possibly be, and I want all the other drivers to be careful, too.

I'm far more confident about all of that because of people like you. I know you are dedicated and passionate about traffic safety. Your participation in ADTSEA is a testament to your willingness to adapt new techniques and materials to your driver education program, and to keeping up with changes in vehicle technology. Like all other teachers in our schools, you know that the "what" you teach, and the "how" you teach it will change over time.

The presentation by the National Transportation Safety Board (NTSB) at our national conference in Hawaii this month may lead us to more challenging changes. I know that you will be ready to take on change and lead us into the next decade of continued improvement for traffic safety education. See you in Hawaii. Mahalo!

(from page 8)

but very likely less than the present alternative costs of crashes.

The present system is known to have failed to be adequate. It is time to approve something better, at least as a broader trial. There is much to be learned from informed efforts by the community to do better.

Meanwhile, thank you for tackling the false assumptions of many researchers. In virtually all nations, adequate driver preparation and in-service re-training have yet to be tested. Fully adequate monitoring and remedial education have yet to be tested.

Editor's Notes from page 2)

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Excerpts from:
How Risky Is the Commute to School?

A N N M . D E L L I N G E R A N D and L A U R I E B E C K

TR NEWS #237 MARCH–APRIL 2005 Pages 22-25
http://trb.org/publications/trnews/trnews237commute.pdf.

Because almost all children and youth 5 to 18 years old are enrolled in school, the school commute becomes an important source of exposure to the traffic environment. The risk of injury or death during the school commute varies by mode of transportation. The Transportation Research Board's Special Report 269,The Relative Risks of School Travel: A National Perspective and Guidance for Local Community RiskAssessment,1 documented findings that only 2 percent of student deaths were related to school buses and that a disproportionate share of passenger vehicle-related student deaths occurred when a teenager was driving (2).

Because the environment of school travel is changing, a periodic assessment of the risks to children and youth during school commutes is important. Following is an examination of changes in injury risk over time by transportation mode. The data were obtained from three sources: The Fatality Analysis Reporting System (FARS), an annual census of all fatal crashes on public roadways in the United States—to identify the number of deaths (3); The National Automotive Sampling System's General Estimates System (GES), a nationally representative sample of all police-reported crashes—to estimate the number of nonfatal injuries (4); and The U.S. Census Bureau's population estimates—to calculate rates by dividing the number of deaths in a period by the number of children and youth in the period, multiplied by 100,000 (5).
The FARS and GES records do not specify the purposes of the trips. Therefore a weekday morning time period was defined during which travel by school-age children and youths was likely to be to school. Afternoon trips from school could be to home or to a variety of other locations—such as work or sports—and therefore were not addressed in the study. All motor vehicle–related deaths and injuries involving school-age children and youth between September 1 and May 31—

(continued on mext page)

TABLE 1
Deaths and Injuries to Children 5 to 18 Years of Age from Motor Vehicle Crashes During Morning Hours, Monday Through Friday, September Through May, by Mode of Transportation, 1993–1996 and 1999–2002

	Deaths			Injuries		
	Period 1 Number (3-year Rates)	Period 2 Number	Rate Change	Period 1 Number (3-year Rates)	Period 2 Number	Rate Change
School Bus	12 (0.01)	7 (0.00)	UC	9,576 (6.08)	5,085 (2.96)	Decrease
Other Bus			No deaths	1,101 (0.70)	2,094 (1.22)	Increase
Pedestrian	165 (0.11)	136 (0.08)	Decrease	9,628 (6.11)	8,698 (5.06)	Decrease
Bicyclist	22 (0.01)	11 (0.01)	No change	5,064 (3.21)	2,920 (1.70)	Decrease
Passenger Vehicle Driver Age < 20	565 (0.36)	566 (0.33)	Decrease	76,868 (48.79)	62,944 (36.63)	Decrease
Passenger Vehicle Driver Age > 21	168 (0.11)	189 (0.11)	No change	48,990 (31.10)	41,228 (23.99)	Decrease

(from page 17)

approximating the typical 9-month school year—and from Monday to Friday between 6:00 a.m. and 8:59 a.m. were assumed to have occurred on a trip to school

More than 300 children and youths 5 to 18 years old were killed each year in motor vehicle crashes during the approximated trip to school. An estimated 40,000 to 50,000 were injured as vehicle occupants, pedestrians, or bicyclists. The rates of deaths and injuries varied by mode of transportation. (see Table 1 on previous page).

Since the 1993–1996 school years, few meaningful changes have emerged in the rates of deaths and injuries related to school travel.

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5. Population Estimates. U.S. Census Bureau. www.census.gov/popest/estimates.php.

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