

Fit to Drive

4th International Traffic Expert Congress
Tallinn from June 4th - 5th 2009



Welcome



The Young Impaired Driver Problem: Recent Developments and Future Progress

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Background

Summary and update of:

- Two-day symposium in June of 2008,
- Sponsored by the U.S. National Academy of Sciences Transportation Research Board Committee on Alcohol, Other Drugs and Transportation
- Brought together experts from around the world to discuss issues related to alcohol and drug impairment among young drivers (16-24).

The Nature of the Problem in the United States

- Compared to older drivers, teens drink and drive less often
- When they do drive after drinking, they are at greater risk of being involved in a crash
- Drugs also play a role in crashes among young drivers.

Policy Change in the United States

- After the drinking age was changed to 21 in the U.S. alcohol related crashes declined dramatically among drivers under 21.
- When adjusted for exposure, 21-29 year old drivers in the U.S. are at highest risk for drinking driver fatalities

When Young Drivers Drink . . .

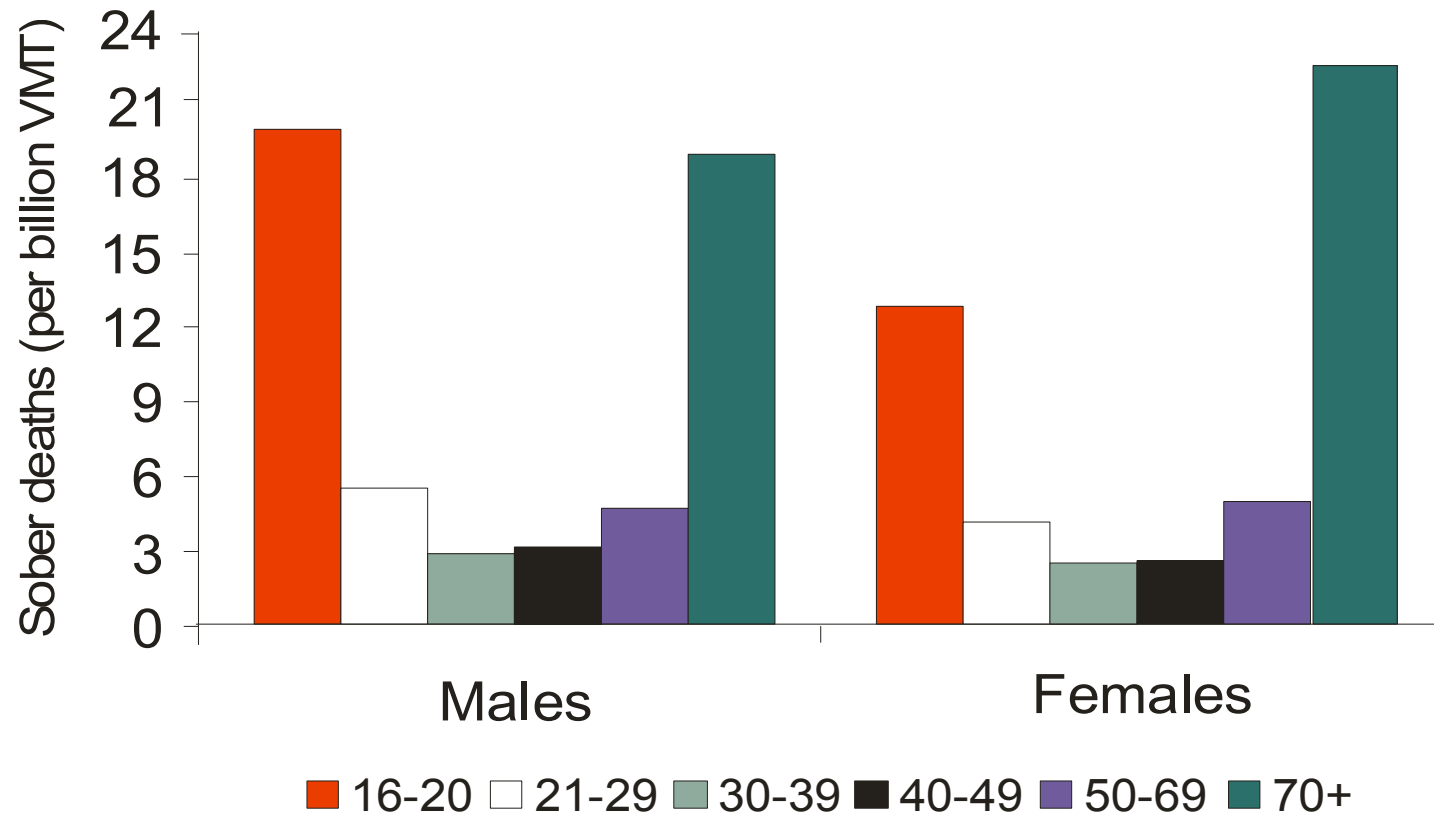
- Risk of crashing is much higher
- At a BAC of .07, the relative risk of crashing is 2 for drivers *over* 21
- Relative risk is nearly 11 for drivers *under* 21
- For a driver at a BAC of .07 drivers under 21 are more than **5 times** more likely to be involved in a crash than drivers over 21



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Nondrinking Driver (BAC=.00) Death Rates per Annual Miles Driven



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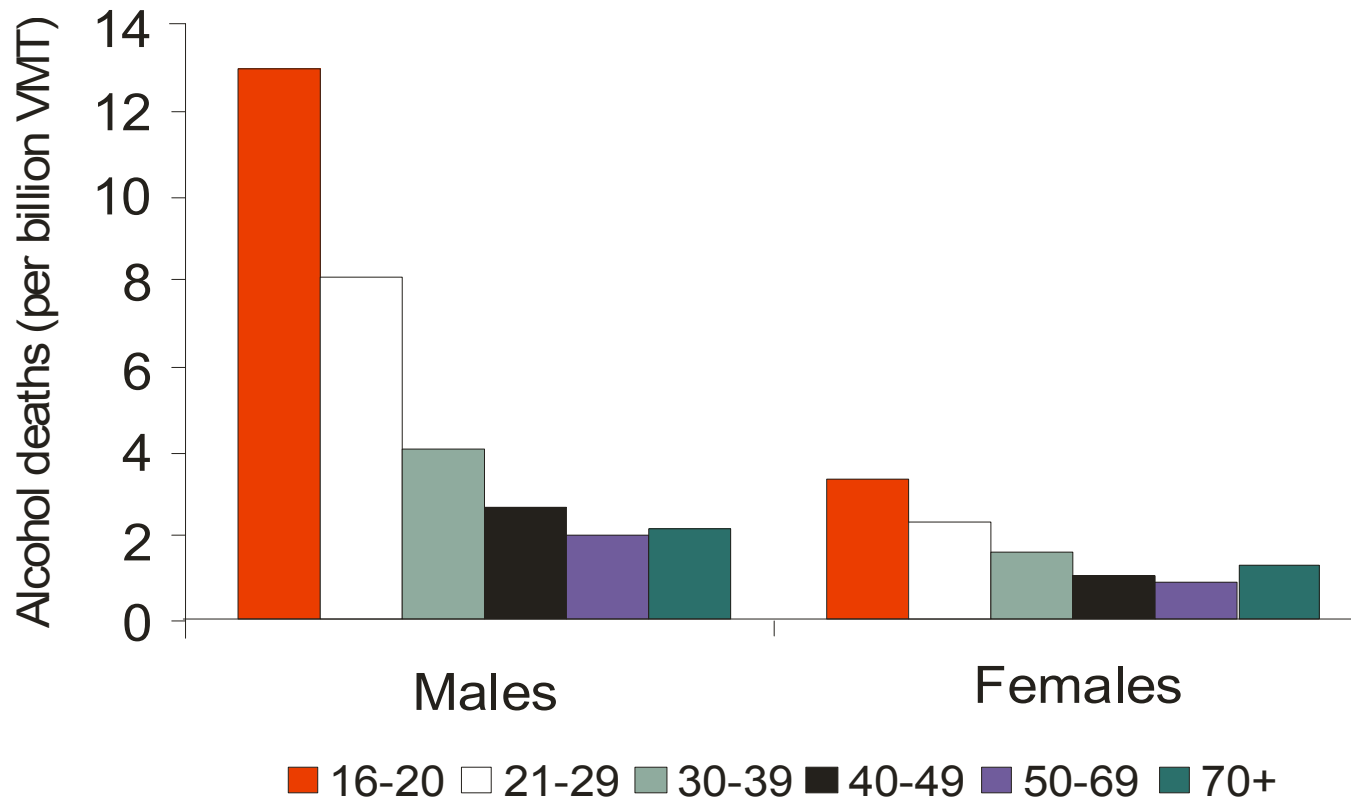


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Drinking Driver Death Rates per Annual Miles Driven



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While alcohol is most common drug impairing drivers . . .

- Indications that marijuana and other drug use may be increasing
- Rates of driving under the influence of marijuana and other drugs may also be increasing

Predictors of Impaired Driving

Series of longitudinal studies have sought to identify predictors of adolescent/young adult impaired driving and/or risky driving:

- *Perceived environment*: social support for drinking and drink driving, less parental monitoring, more parental permissiveness, and less perceived risk.
- *Personality system*: more tolerance of deviance, more susceptibility to peer pressure, more risk-taking, more hostility, more aggression, and poorer marks in school.
- *Behavior system*: early onset of drinking, adolescent alcohol misuse, cigarette, marijuana and other drug use, and more driving aggression.

Characteristics of Crashes Involving Young Drivers: Alcohol

- Young drinkers consume larger amounts of alcohol in a single sitting
- When they do drink and drive, likely to have a higher BAC than adults.

Characteristics of Crashes Involving Young Drivers: Passengers

- Teen passengers greatly increase the crash risk of teen drivers
- Risk increases significantly with each additional passenger
- Adult drivers experience either no change in risk or a small safety benefit from having passengers

Characteristics of Crashes Involving Young Drivers: Combined Risks

- Crashes involving alcohol, speeding, and carrying of passengers: **20 times more likely** for teens than for middle aged adults
- Crashes occurring at night and involving both alcohol and passengers: **9 times more likely**

The Young Driver Problem in Europe

- Drinking age lower than in the U.S. – 18 or younger in most countries
- Little emphasis placed on enforcing the drinking age.
- The legal age of driver licensure higher than in the U.S.
- Uniform statistics from country to country hard to find
- Young people at almost twice the average risk of being killed in a road accident

Impairment among Young Drivers in Europe

- Crash risk for young drinking drivers is greater than for adults who have been drinking.
- In the Netherlands, with a BAC of 0.5 g/l, crash risk is six times higher than with zero BAC
- Drug use an increasing problem among young (male) drivers

Drinking among Youth in Europe

- Heavy drinking an increasing problem in some countries
- In France, the number of young people ages 15 to 24 hospitalized for serious inebriation rose 50% from 2004 to 2007.
- Bill introduced in France to raise the drinking age for beer and wine to 18 from 16.
- Increase in binge drinking among young people has been blamed on "the marketing of new products that don't look like alcohol and don't taste like alcohol. It's the alco-pop culture."
- Some EU member states have introduced countermeasures (e.g. server responsibility), others are currently under discussion

Binge Drinking in Britain

- Growing problem of heavy drinking among young people led to a police crackdown in England and Wales.
- Police from 39 different agencies seized alcoholic beverages from underage drinkers in the February 2009 campaign
- Of the 5,143 youngsters who surrendered alcohol to the police, 25% said they were aged 15 or under
- The government indicated that these types of crackdowns would continue

Legal Strategies: Graduated Licensing

- The dominant strategy for improving the safety of young drivers in many countries
- Provides a staged licensing system by which young and novice drivers are restricted in early stages regarding how and when they drive
- Allowed increasing independence and flexibility as they gain more experience

Characteristics of Graduated Licensing Systems

- Minimum holding periods at each phase of licensure,
- Nighttime restrictions on driving
- Restrictions on carrying passengers.
- Prohibition of any use of alcohol during the learning and probationary phases of licensing

Australian System

Requires display of unique identifying plate on the vehicle driven to indicate licence status to other drivers, road users and to police



Effectiveness of Graduated Licensing

- Studies consistently show a 12-40% reduction in crashes among affected drivers

Drinking Age: Traffic Safety Effects in U.S.

- Minimum drinking age of 21 has been a primary legal strategy for reducing impaired driving among young drivers.
- Dramatic effects of the higher drinking age on drinking and driving *and* on other alcohol related harms.
- Rates of alcohol related fatalities have declined in all age groups over the last 25 years,
- Rates have declined most dramatically for drivers aged 16 to 20.
- No rebound effects of delaying the drinking age until 21

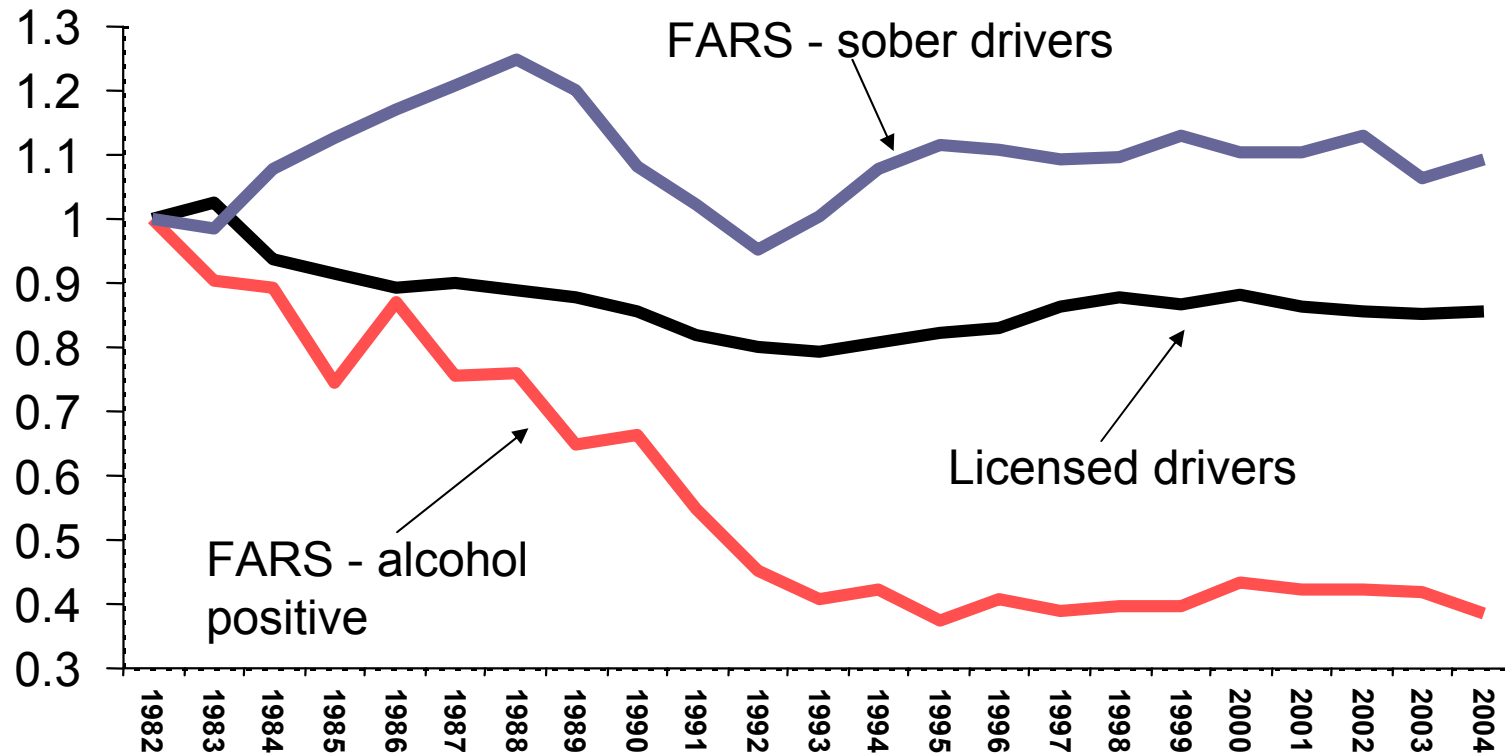


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Reduction in Impaired Driving for Drivers Under 21: 1982-2004



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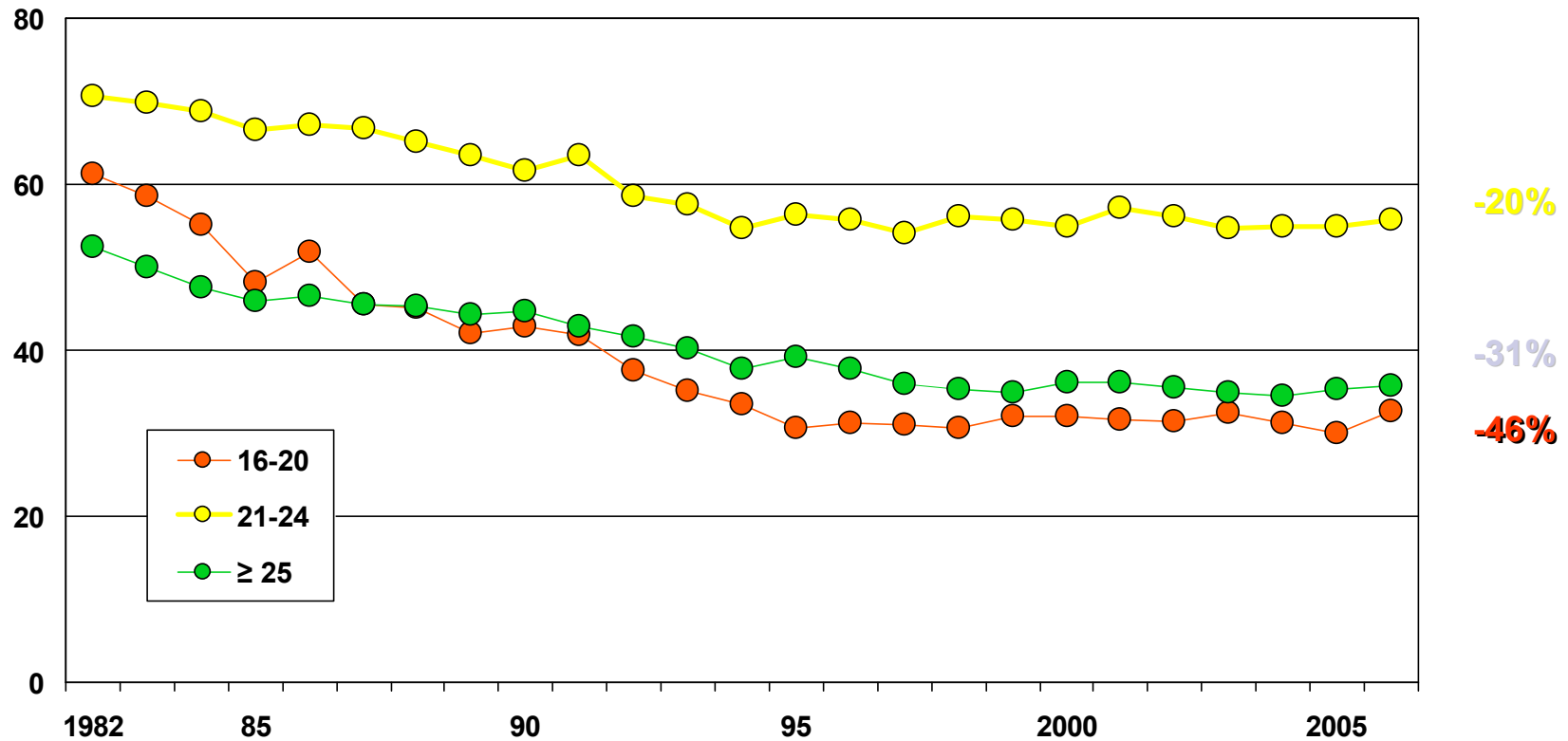


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Percent of fatally injured drivers with positive BAC By age, 1982-2006



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Lowering Drinking Age in New Zealand

- New Zealand lowered drinking age from 20 to 18 in 1999
- Traffic crashes have increased as have other alcohol related injuries and problems among youth
- Drinking and associated problems have trickled down to 15-17 year olds

The Role of Enforcement in Reducing Impaired Driving among Youth

- Enforcement - plays a key role in reducing impaired driving among *all* drivers
- Highly publicized random breath tests and sobriety checkpoints - very effective in reducing impaired driving crashes.
- Random drug testing has been implemented in Australia

Random Breath Testing





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Roadside drug testing: Australia



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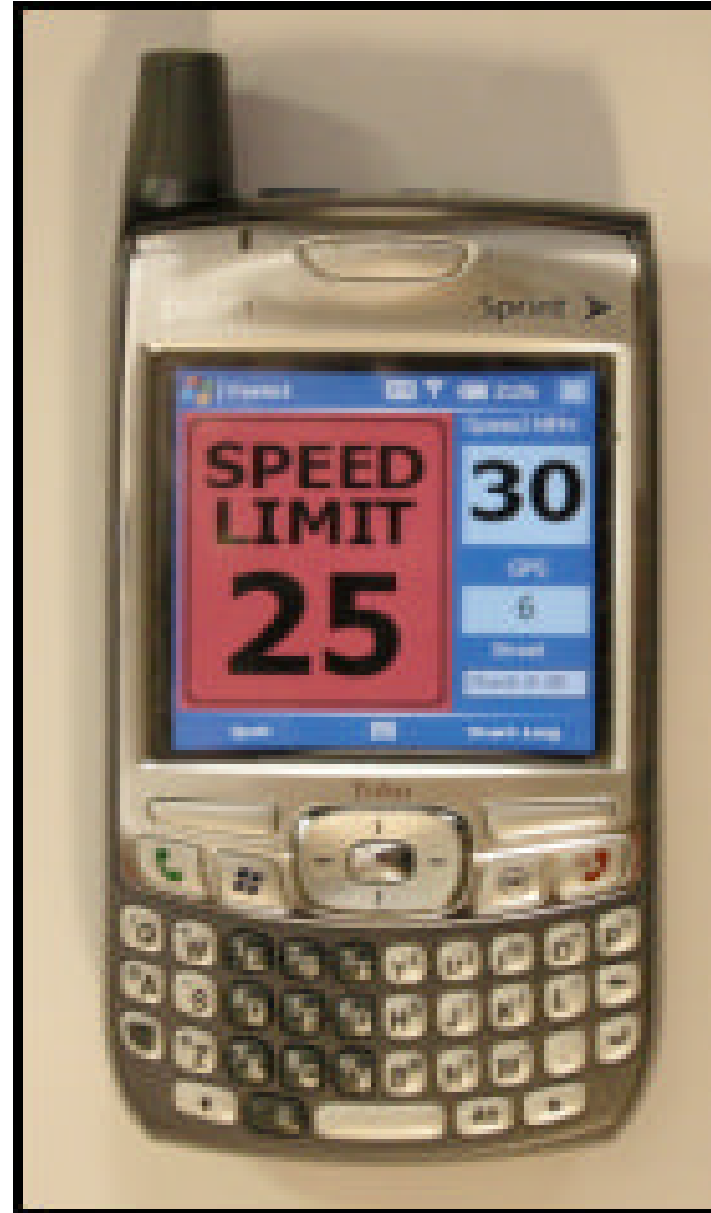
Other Enforcement

- Broadened beyond enforcement of impaired driving laws
- Enforcement of speed limits in France has reduced crashes among *all* drivers: speeding is particularly dangerous for young drivers
- Enforcement of seat belt use laws has potential to reduce impaired driving and alcohol related deaths and injuries: young drivers have lower belt use rates.

The Potential of Technology to Prevent Impaired Driving among Youth

- **Forcing:** dangerous behavior is not permitted - speed governors or preventing driving unless the seat belt is fastened.
- **Feedback:** alerting the driver to dangerous behavior – speeding or following too close.
- **Reporting:** alerting parents or other authorities when dangerous driving has occurred.

Cell Phone Based System: Speed Violation Display



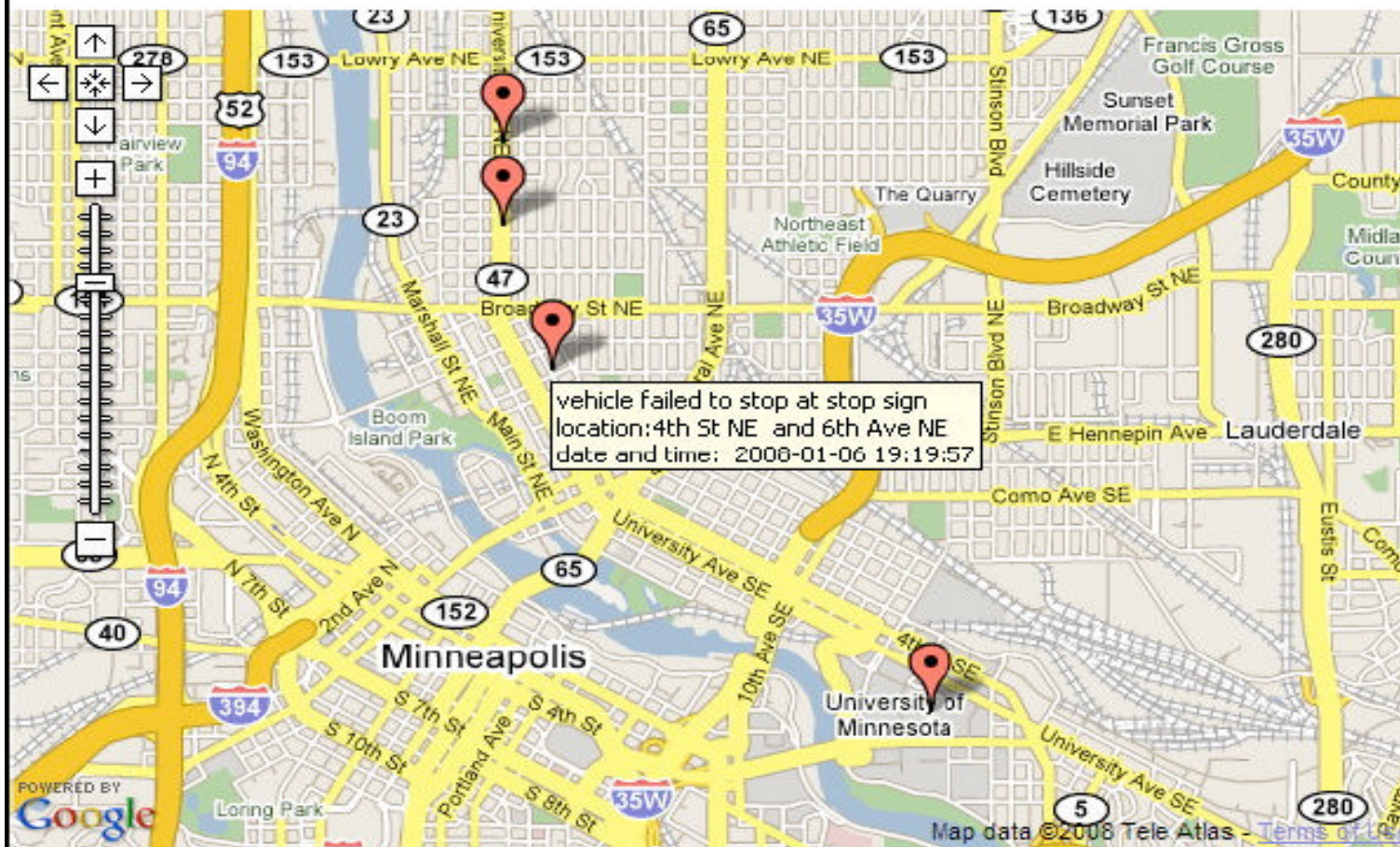


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Authenticated

Driving infractions for driver richard hoglund occurring in the last week:



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Conclusions: The Problem

- Young drivers pose danger in traffic - inexperience and lack of mature judgment.
- Risk is exacerbated by impairment with alcohol or other drugs.
- These risks occur in the U.S. as well as many other countries.
- Some predictable characteristics - excessive speed, carrying passengers, and not wearing seatbelts.

Conclusion: Solutions

- Much progress has been made in reducing crashes and impaired driving among young drivers.
- In the U.S., raising the drinking age to 21 brought about a dramatic reduction in impaired driving crashes.
- Zero tolerance laws and graduated licensing systems have also been very effective.

Conclusion: Solutions (con't)

- Enforcement is a necessary to prevent impaired driving and other risky driving behaviors.
- Newly developed technologies have the potential to further reduce risky and impaired driving among young drivers

The full draft report from the symposium can be seen on the website of the International Council on Alcohol, Drugs and Traffic Safety www.icadts.org.