

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

Kathryn Stewart and Barry Sweedler

*Prevention Research Center and Safety and Policy
Analysis International, Lafayette, California USA*





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.



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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

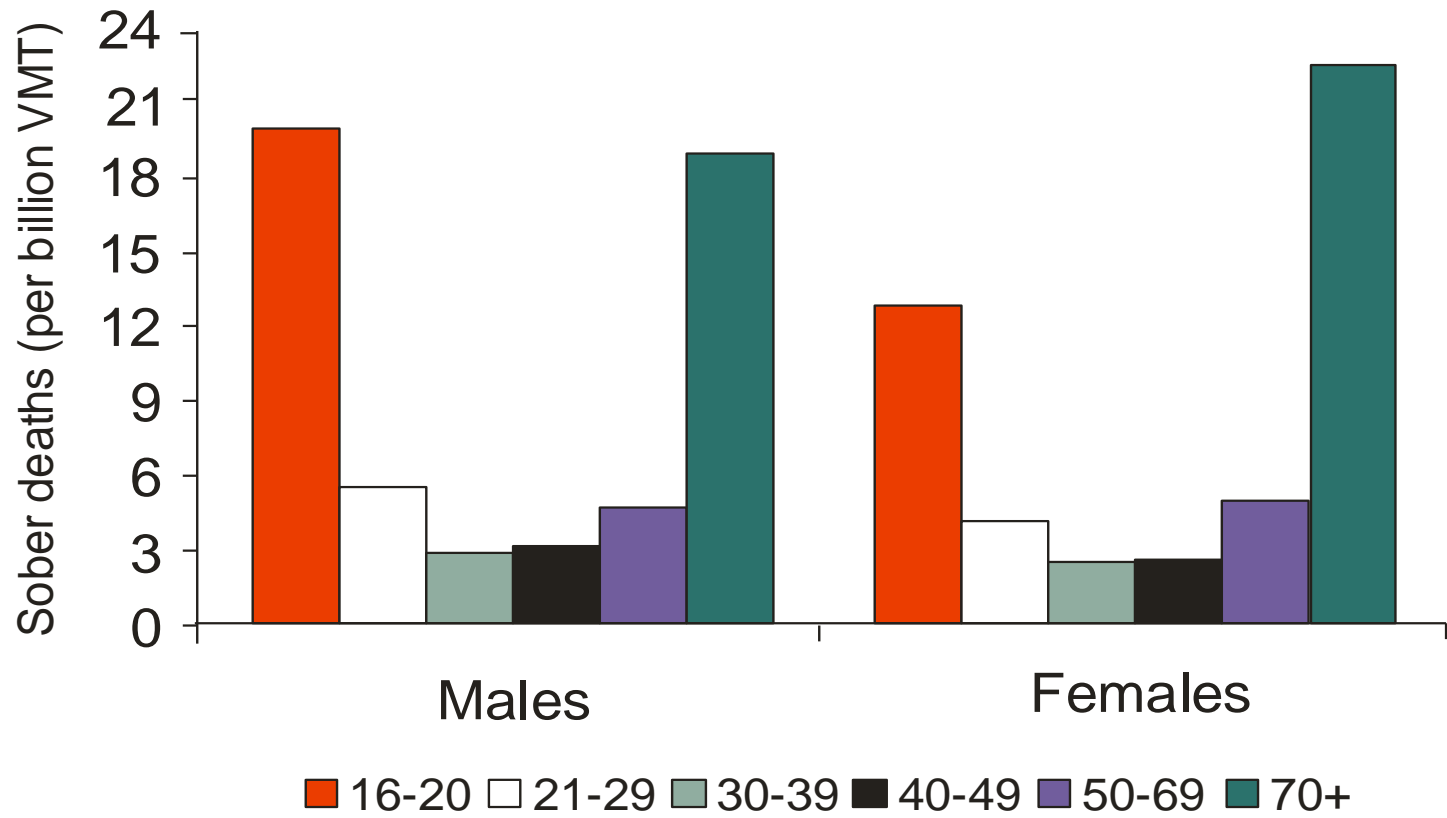


When Young Drivers Drink . . .

- 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



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



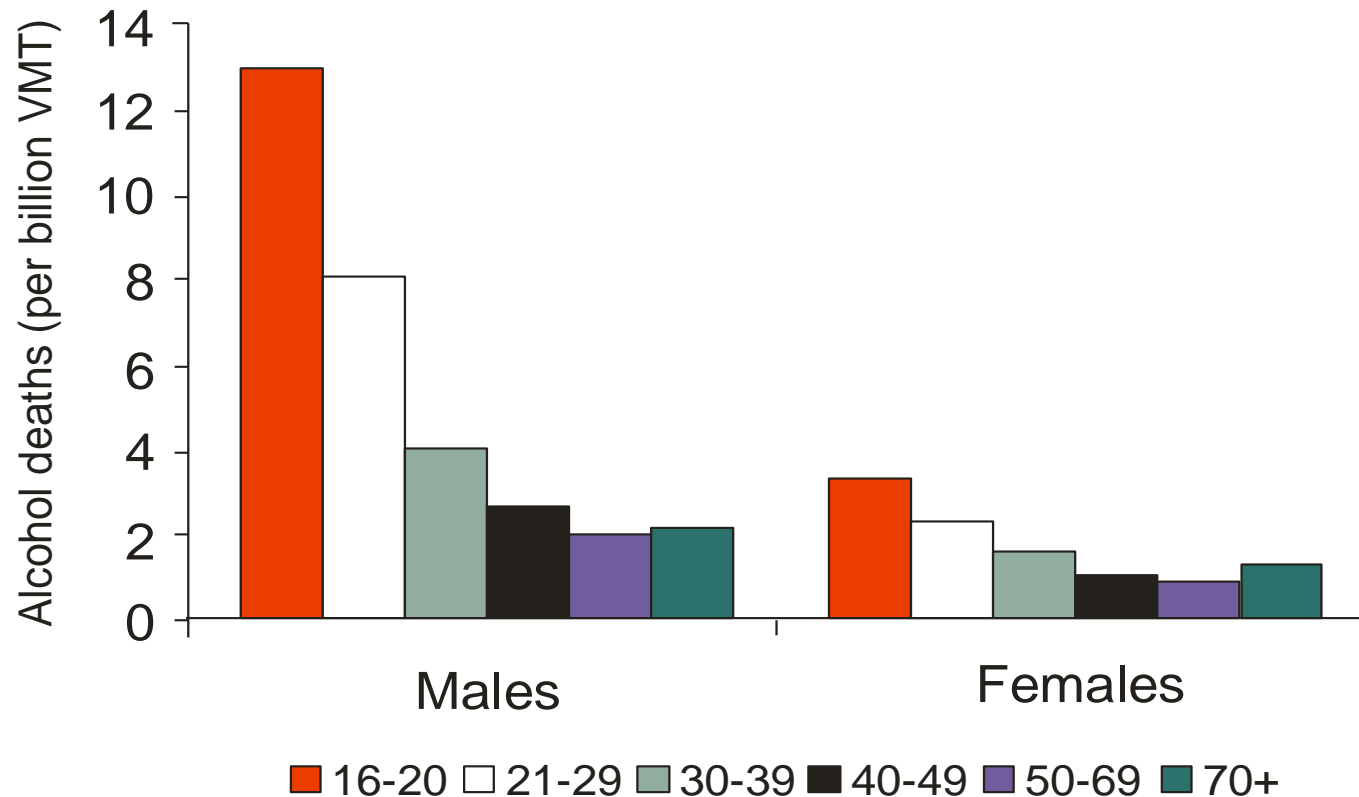


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Drinking Driver Death Rates per Annual Miles Driven





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



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Australian System

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



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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

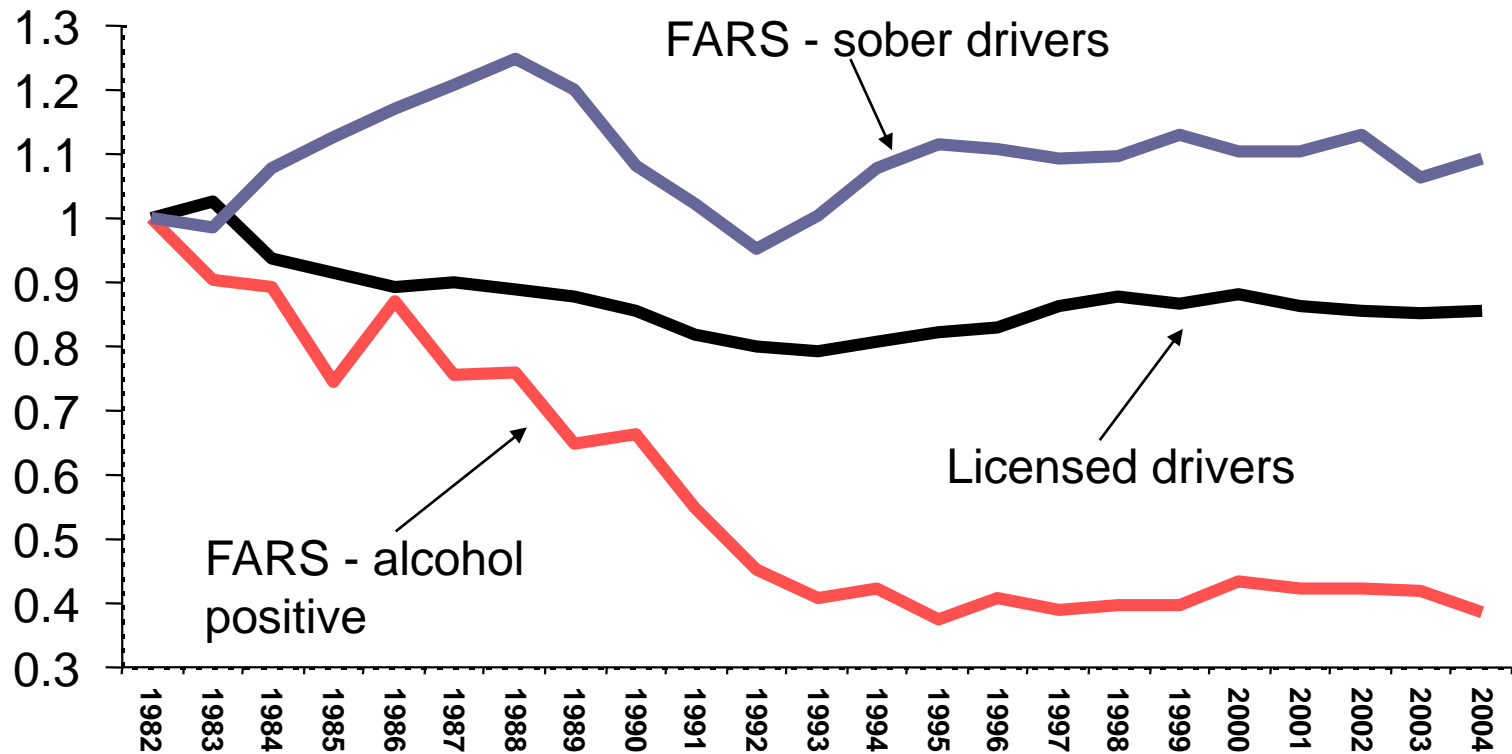


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Reduction in Impaired Driving for Drivers Under 21: 1982-2004



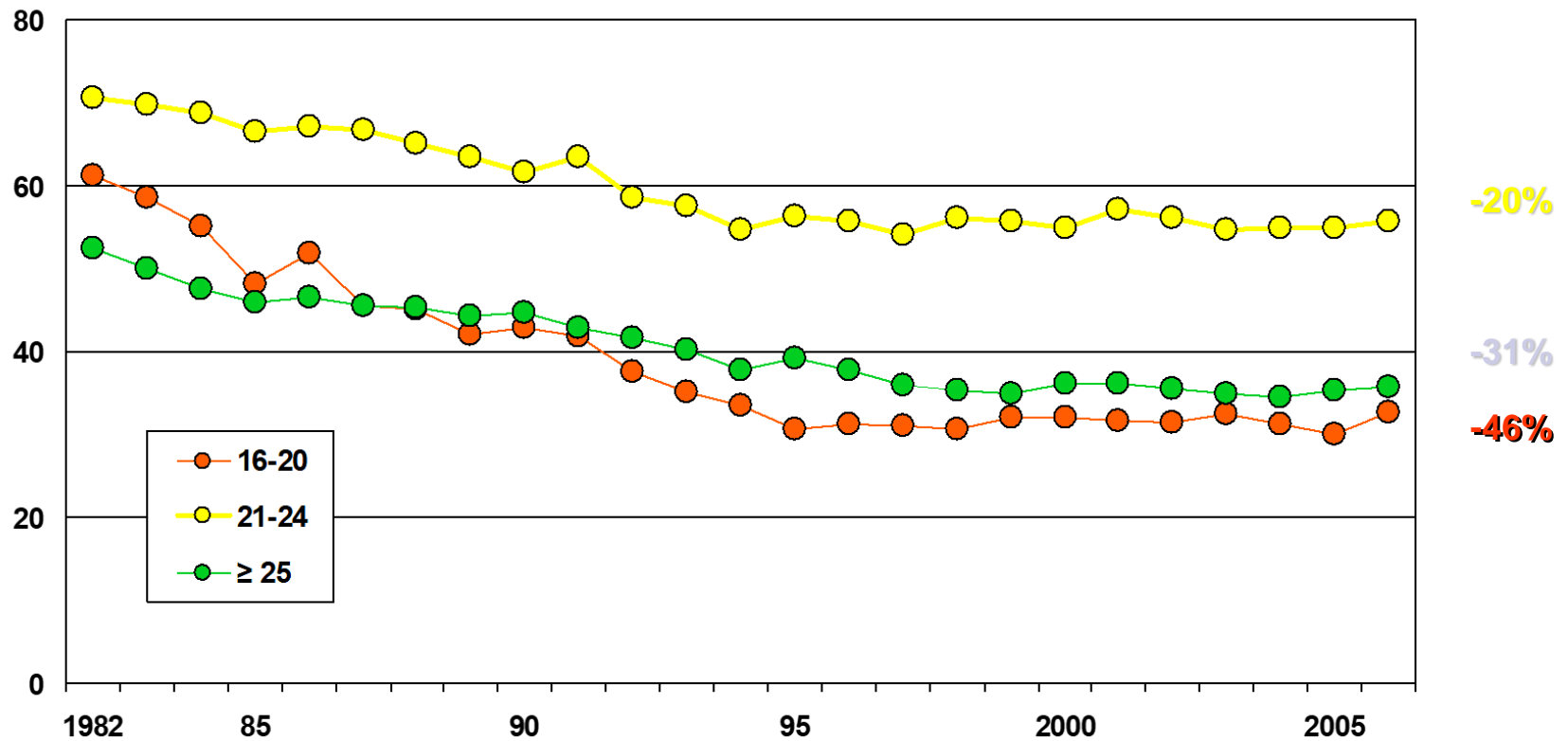
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Percent of fatally injured drivers with positive BAC By age, 1982-2006





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



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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.



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Cell Phone Based System: Speed Violation Display



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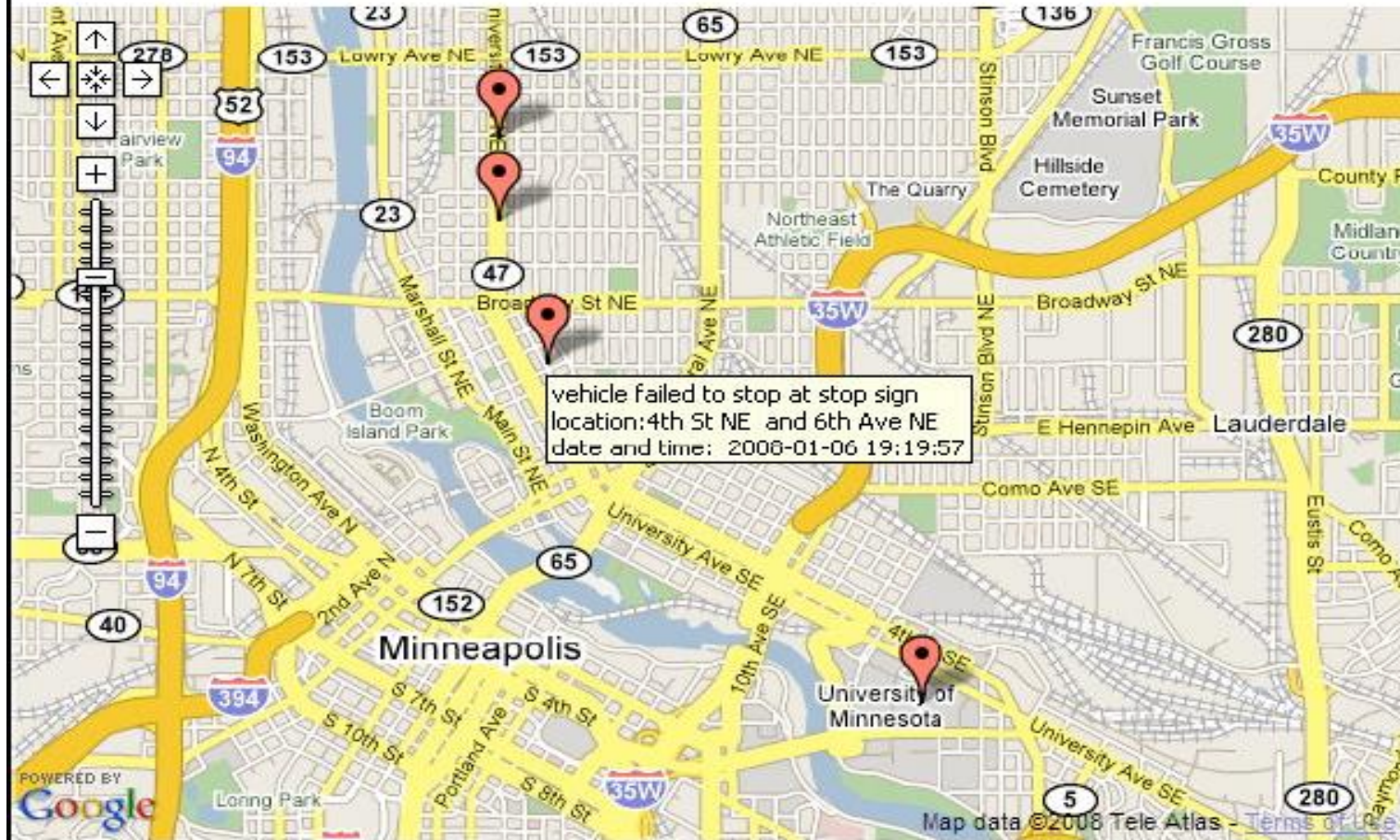


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Authenticated

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





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



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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.

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