

ROADWAY SAFETY INSTITUTE

Human-centered solutions to advance roadway safety

Toward Greater Understanding of the Relationship between Public Perceptions of Speed, Speed Laws, and Safety

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Context for this Research

- Speed an ongoing safety challenge, implicated in roughly one-third of roadway fatalities (approx. 9,500 in 2015)
- Speeding contributes to the frequency and severity of crashes
- Certainty and severity of speed enforcement shown to be important in deterring speeding (Ritchey and Nicholson-Crotty, 2011), yet not reflected in current approach to speed
- States are not uniformly opting for lower speeds or stricter enforcement, despite evidence that doing so improves safety
 - Since National Maximum Speed Law was repealed in 1995, all states have raised speed limits on rural highways
 - Michigan increased maximum highway speed from 70 to 75 mph in 2017
 - Minnesota maintains “Dimler Law” exempting certain speed violations from driving records

Speed's Public Choice Problem

Laws seem to reflect public ambivalence toward speed enforcement

- 2011 “National Survey of Speeding Attitudes and Behaviors” (NHTSA):
 - 79% of respondents agreed that “Driving at or near the speed limit reduces my chances of an accident”
 - Only 48% of respondents agreed it is “very important that something be done to reduce speeding on the nation’s roadways”
 - Similarly, only 48% agreed that speed limits “should be enforced all of the time”

Literature Review

Most motorists acknowledge speed as a problem, yet most prefer to exceed the speed limit (“mismatch between beliefs and behaviours”).

- Fleiter and Watson, 2006

People who prefer higher speed limits for self-interested reasons (e.g. because they speed, and/or believe themselves to be superior drivers) may fail to acknowledge the self-interested nature of their preferences.

- Johansson-Stenman and Martinsson, 2005

Literature Review

Hrelja, Summerton and Svensson (2014) examined the process of setting speed limits in one Swedish county.

- Two conflicting perspectives:
 - Mobility Perspective: higher speeds, more economic development
 - Safety Perspective: lower speeds, more safety
- Elected officials found to adhere to Mobility Perspective

Literature Review

Lobbying for higher speeds

- Different motivations (Breen 2004):
 - Interference with civil liberties
 - Commercial/economic interests
- Norwegian study finds “much more lobbying for mobility than for safety” (Koltzow 1993)

Examining the Public Choice Problem in Region 5

Data:

- Region 5 state speed laws
- Speed-related crash/fatality data
- Surveys of public perceptions of and attitudes toward speed



Hypothesis:

- States with the greatest clarity and certainty of enforcement will have the lowest crash and fatality rates.

Region 5 Speed Laws

- Just like nationally, a patchwork of laws within the region
- Points of differentiation
 - Prima facie vs. absolute vs. mixed
 - Maximum speed limit
 - Severity of punishments
 - Automatic reckless driving speed in excess of speed limit
 - Allow automated speed enforcement (ASE)
- Also, relationship between posted speed limit, design speed and operating speed.
- Differences so vast that no definitive comparison was developed

Speed-Related Crash and Fatality Data

- Lots of variation in the available data. FARS: 43% of fatalities speed-related in PA, versus 10% in FL in 2014...this gave us pause.
- Growing body of literature on reporting of speed-related crashes:
 - 2017 NTSB report: “law enforcement of reporting speed-related crashes is inconsistent”
 - Fitzpatrick, Knodler and Rakasi, 2017: “...it was determined that the responding officer only utilized one DCC [Driver Contributing Code] in 82% of crashes not designated as speeding-related but contained a narrative indicating speed as a contributing causal factor.”
- Unable to make comparisons between Region 5 states

Public Perception of Speed in Region 5

- Surveys obtained for Minnesota, Wisconsin and Michigan, but not Indiana, Illinois or Ohio
 - Driver Attitude and Beliefs Omnibus Survey - Michigan Office of Highway Safety Planning, 2014
 - Speeding on Wisconsin Highways, Badger Poll #5 - University of Wisconsin Survey Center, 2003
 - Wisconsin Department of Transportation NHTSA Performance Measures Survey - University of Wisconsin Survey Center, 2016
 - 2012 Minnesota Omnibus Transportation Survey – Minnesota Department of Transportation, 2012
 - 2014 High-Risk Driver Analysis - Minnesota Department of Public Safety, 2014

Public Perceptions of Speed in Region 5

Michigan

- 87% believe the speed limits in their community are “just about right”
- 62% believe they are less likely to be involved in a crash than the average driver
- **78.7% believe they have better driving skills than the average driver**

Minnesota

- 73% believe the level of enforcement is “about right”
- 70% believe they are less likely to be involved in a crash than the average driver
 - This figure was lower (55%) for those who admitted to speeding
- **63% “consider themselves to be above average drivers”**

Wisconsin

- 2003 survey conclusion: “When it comes to the issue of speeding [Wisconsin drivers] perceive this as a moderate problem for the state, and there is little groundswell for treating speeding more seriously.”
- **50% of respondents consider themselves better than most drivers**

Conclusions

- Better data are needed for definitive conclusions to be made about the relationship between speed laws/enforcement, public perceptions of speed, and safety outcomes in Region 5.
- However, the literature, survey data, and laws appear to support the notion that laws are written to reflect public ambivalence toward speed.

Recommendations

Improve data on all three fronts

Speed-related crash, injury and fatality data

- Consistency in reporting practices across jurisdictions
- Agreement on what “speed-related” means

Public perceptions of speed data

- Deployment of a recurring national survey with a sufficient sample in each state to enable cross-state comparisons

Speed laws and enforcement

- Improve laws for greater transparency and certainty
- Standard measurement for certainty of punishment in each state, taking into account laws themselves and enforcement practices and resources

Next Steps?

- In the current environment, the various actors involved in roadway safety (politicians, engineers, law enforcement officials, etc.) can deflect responsibility for safety to someone else.
- How can we break this cycle? NTSB's 2017 report, "Reducing Speed-Related Crashes Involving Passenger Vehicles", gives some clues into how practice may be moving toward greater safety and accountability.
 - Questioning the 85th percentile speed approach
 - Implementation of automated speed enforcement (ASE)
 - Nationwide effort to raise awareness of speed risks
 - More consistent reporting of speed-related crashes

References

- Nicholson-Crotty, S. and Ritchey, M. Deterrence Theory and the Implementation of Speed Limits in the American States. *The Policy Studies Journal*, Vol. 39, No. 2, 2011, p. 332-341.
- Fleiter, J. and Watson, B. The speed paradox: the misalignment between driver attitudes and speeding behavior. *Journal of the Australasian College of Road Safety*, Vol. 17, No. 2, 2006.
- Johansson-Stenman, O. and Martinsson, P. Anyone for higher speed limits? – Self-interested and adaptive political preferences. *Public Choice*, Vol. 122, 2005, pp. 319-326.
- Hrelja, R., Summerton, J., and Svensson, T. The politics of speed – local and regional actors' views on speed limits, traffic safety and mobility in Sweden. *European Transportation Research Review*, Vol. 6, 2014, pp. 47-49.
- Breen, J. Road safety advocacy. *British Medical Journal*, Vol 328, No. 7444, 2004, pp. 888-890.
- Koltzow, Karin. Road safety rhetoric versus road safety politics. *Accident Analysis & Prevention*, Vol 25, No. 6, 1993, pp. 647-657.
- Reducing Speed-Related Crashes Involving Passenger Vehicles. Publication NTSB/SS-17/01 PB2017-102341, National Transportation Safety Board, 2017. <https://www.nts.gov/safety/safety-studies/Documents/SS1701.pdf>
- Fitzpatrick, C., Knodler, M. and Rakasi, S. An investigation of the speeding-related crash designation through crash narrative reviews sampled via logistic regression. *Accident Analysis & Prevention*, Vol. 98, 2017, pp. 57-63.
- Tupper, S. Crash stats can obscure speed's influence. *Rapid City Journal*. April 2015. http://rapidcityjournal.com/news/local/crash-stats-can-obscure-speed-s-influence/article_cd380df6-32e1-593d-9492-3fc156935e21.html. Accessed July 29, 2017.

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