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  - Since National Maximum Speed Law was repealed in 1995, all states have raised speed limits on rural highways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
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):
  o Interference with civil liberties
  o 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
  o Prima facie vs. absolute vs. mixed
  o Maximum speed limit
  o Severity of punishments
  o Automatic reckless driving speed in excess of speed limit
  o 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:
  o 2017 NTSB report: “law enforcement of reporting speed-related crashes is inconsistent”
  o 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
  - 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.
  o Questioning the 85\textsuperscript{th} percentile speed approach
  o Implementation of automated speed enforcement (ASE)
  o Nationwide effort to raise awareness of speed risks
  o More consistent reporting of speed-related crashes
References


The Roadway Safety Institute is the University Transportation Center for USDOT Region 5, which includes Minnesota, Illinois, Indiana, Michigan, Ohio, and Wisconsin.