

# 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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Frank Douma and Frank Alarcon  
State and Local Policy Program  
Humphrey School of Public Affairs

# 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  - Since National Maximum Speed Law was repealed in 1995, all states have raised speed limits on rural highways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 85<sup>th</sup> percentile speed approach
  - Implementation of automated speed enforcement (ASE)
  - Nationwide effort to raise awareness of speed risks
  - More consistent reporting of speed-related crashes

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