RESEARCH BRIEF

Review of Current Practices for Setting Posted Speed Limits

April 2019

In 1995, U.S. legislation repealed the 55 mph national maximum speed limit (NMSL) on interstate highways, providing complete freedom for states to set their own speed limits. Since then, states have steadily adjusted their posted speed limits for various reasons. A number of studies (Sayed and Sacchi, 2016; Vadeby and Forsman, 2018) have reported that speed limit changes can affect traffic safety, either negatively or positively, depending on how appropriate the new speed limit is for the road, how it is implemented and how the impact of the change is analyzed. For example, some studies examining crash fatalities on interstates found the 55 mph NMSL saved lives (Farmer et al., 1999; Kockelman & Bottom, 2006). However, other studies (Lave & Elias, 1994; McCarthy, 2001) reported that increasing the speed limit to 65 mph after the repeal reduced statewide fatality rates when measuring system wide effects (e.g., considering higher compliance with speed limits, reduced speed variances, shifting drivers from more dangerous roads to interstates, etc.).

This study investigated the current practice of setting a speed limit across the nation through a review of the relevant documentation and by surveying traffic professionals. In general, the literature presents five approaches to setting speed limits (Forbes, 2012): 1) statutory speed limits, 2) engineering study, 3) expert system (USLIMITS and USLIMITS2), 4) injury minimization or Safe System approach, and 5) optimum speed limits.

The online survey revealed that when respondents were asked how often only the 85th percentile speed was considered, their responses ranged from “at all times” (6%) to “most of the time” (31%). Other respondents, however, reported often considering multiple influential factors including crash frequency statistics (46%) and surrounding land use (36%) as the top two. The survey also indicated that 57% of respondents reported their agencies have their own standard operating procedure/policy (SOP) for setting speed limits. Interestingly, nearly half of the respondents (49%) who had heard about the expert system reported that they never base a decision about changing a speed limit on it. The top reason for not using USLIMITS or USLIMITS2 was that their agencies’ practices work well or are easier, more effective and more comprehensive (25%) than using an expert system.

This research brief also discusses the challenges of current practices and future directions for speed limit posting and the future work anticipated by the AAA Foundation for Traffic Safety.

METHODS

This study investigated the current practice of setting a speed limit across the nation through reviewing relevant documentation. Additionally, traffic professionals were surveyed online to obtain direct feedback on how current practices and approaches are implemented in their states and local jurisdictions. The survey consisted of 17 questions (available in Appendix A) about topics including what factors they consider, how they work with those factors to make a decision, and how often they implement speed management measures in conjunction with speed limit changes. The survey was administered in the summer of 2018. One hundred and seventy-five traffic engineers across the 48 continental United States participated representing local (44%) and state (54%) agencies, as well as private consulting firms (2%). This brief summarizes some survey results produced from descriptive analyses.

RESULTS

Methods of Setting Posted Speed Limits

In general, there are five approaches to setting speed limits (Forbes, 2012): 1) statutory speed limits, 2) engineering study, 3) expert system, 4) injury minimization or Safe System approach and 5) optimum speed limits. Descriptions of each approach are summarized in Table 1. The uses of these approaches are thought to range fairly significantly, with the engineering study and expert system being most widely used and injury minimization least used in the United States.

As indicated in Table 1, statutory speed limits refer to the speed limit legislated by states or local jurisdictions. For example, the NMSL was established at 55 mph nationwide in 1974 during the energy crisis and was repealed in 1995.

The engineering study is often used by states employing the 85th percentile operating speed — "the speed at or below which 85 percent of the motor vehicles travel (FHWA, 2009)" — as a base in determining a roadway's speed limit (Fitzpatrick et al., 1997). Typically, this base speed limit is adjusted, either increased or decreased, based on several factors in the investigations. Notwithstanding widespread use of this approach, few jurisdictions use quantitative methods for adjusting the base speed limit and a majority of practitioners rely significantly on subjective engineering judgment to set speed limits.

For this reason, the Federal Highway Administration developed the expert system (USLIMITS and, more recently, USLIMITS2) to turn this subjective decision-

Table 1. Methods of Setting Posted Speed Limits

Method	Description
Statutory speed limit	• Refers to a speed limit legislated by states or local governments • Established mostly from a policy perspective considering trade-offs, primarily between safety and traffic efficiency for various roadway types
Engineering study*	• Refers to a process consisting of several steps: planning, coordination, data collection and analysis, and determination of a speed limit • Uses the 85th percentile operating speed as a base speed, with adjustments applied to either increase or decrease it after investigations into traffic, site condition and infrastructure • Relies on engineering judgment through the entire process, especially for adjustments • Various practices exist across the nation depending on road environments, community needs and jurisdictional policies
Expert system	• Refers to a knowledge-based computer program adopting a similar process that experts use to solve complex problems • Assists practitioners in determining speed limits through a web-based interface by entering a series of data (road type, site characteristics, traffic information and crash information) • Employs a programmed decision algorithm and generates a recommended maximum speed limit with limitations and warnings • Two expert systems (USLIMITS and USLIMITS2) are available for use in the United States (Lemer, 2007)
Injury minimization/Safe System	• Mainly considers road safety • Widely adopted in European countries • Determines speed limits according to crash types that are likely to occur, the resulting impact forces to road users and the human body's tolerance to those forces
Optimum speed limit	• Refers to a speed limit that minimizes the total transport cost from societal perspective • The costs include vehicle operation costs, crash costs, travel time costs, noise, air pollution and other social costs

* Engineering study is incorporated into standard operating procedure/policy (SOP) in various formats for many state and local agencies.

making process into a logical and objective approach. The Federal Highway Administration expected that this system would assist practitioners in determining more credible, safe and consistent speed limits for similar road types and traffic characteristics.

As opposed to the engineering study or expert system approach, the injury minimization approach puts a high priority on road safety and sets a speed limit to prevent crashes that may cause severe injuries. This approach generally results in lower speed limits than the engineering study and expert system. Thus, many jurisdictions in the United States do not accept this approach as balanced in meeting community, as they do not expect drivers will fully respond to the low speed limit without constant enforcement. The outcome can be viewed by the public as entrapment.

Using optimum speed limits considers society as a whole rather than recognizing the operating speed influence on individual drivers. Due to the difficulty of quantifying costs, this method is rarely adopted in practice even though the concept seems to be appropriate and appealing.

Prevalence of Current Practices for Setting Speed Limits

Survey results indicated that 98% of respondents consider the 85th percentile operating speed when raising or lowering posted speed limits. When asked how often only the 85th percentile speed was considered, participants' responses ranged from "at all times" (6%) to "most of the time" (31%). Other respondents, however, reported often considering multiple influential factors. Multiple factors were listed, and the top two included crash frequency statistics (46%) and surrounding land use (36%) (see Figure 1).

The survey also revealed that 57% of respondents reported their agencies have a standard operating procedure/ policy (SOP) for setting speed limits, and nearly 45% of them always use this policy when considering changes in speed limits. In addition to SOP, nearly 52% also rely on engineering judgment and experience most of the time or all the time, while only 16% use a technical system (i.e., a simulation tool or expert system) (see Figure 2-A). Respondents whose agencies do not have an SOP or who are not sure if their agencies have it, on the other hand, are more inclined to rely on engineering judgment and experience than a technical system (see Figure 2-B).

Interestingly, 3 out of 10 respondents either had never heard about an expert system (i.e., USLIMITS or USLIMITS2) or had any understanding of the system. Other recent surveys (Fitzpatrick et al., 2019) also found low familiarity with USLIMITS2 (less than 15%). Unlike what is reported in the literature (that the expert system is one of the most widely used methods), nearly half of the respondents (49%) who had heard about this system reported that they never base a decision about changing a speed limit on it. As shown in Figure 3, the top reason for not using USLIMITS or USLIMITS2 was that their agencies' practices work well or are easier, more effective and more comprehensive (25%) than using an expert system. Further, respondents noted that their agencies do not recommend (19%) nor provide training (10%) for such a system. Some respondents criticized the expert system for requiring data that are unavailable to be put into the system (10%) and/or that the system results are unrealistic or inapplicable (14%).

Figure 4 shows that 28% of respondents answered that they often or always consider implementing speed management measures (e.g., enforcement, physical barrier on median, installing guardrails, etc.) as well when changing speed limits. However, the majority (58%) answered that they only consider it sometimes and 14% reported that their agencies never consider these measures. Some practitioners commented that their jurisdictions are frequently unable to invest in high-cost infrastructure changes, although it would be a more effective way to improve safety than a simple speed limit change.

The survey also asked respondents about common reasons for changing speed limits. The top reason for raising a speed limit is a change or changes in infrastructure, network, land use or road function (63%), followed by requests from the general public to improve mobility (41%). The top reason to lower a speed limit is receiving requests from the general public to improve safety (76%) followed by a political decision or requests arising from a political debate (47%). Interestingly, a number of professionals responded that they consider raising (16%) or lowering (10%) speed limits when existing speed limits are found to be too low or too high due to a change in the 85th percentile operating speed based on an engineering study or public hearing.

Respondents provided a number of valuable comments concerning current practices. First, a significant number

of practitioners are well aware of the concern about using the 85th percentile operating speed as a key factor for determining a speed limit, although few respondents discussed the effectiveness of using this criterion. These respondents agreed that speed limits should be derived from the roadway context (functions, types and land use) in conjunction with other considerations of various factors and community needs. However, they note that law requirements relying on the 85th percentile speed hinder their decision-making processes in setting a speed limit according to rigorous investigations that consider various factors.

Second, drivers' lack of compliance with speed limits is a challenge. One respondent commented that typically, drivers travel 8 to 10 mph above the posted speed limit with a perception that the posted speed limit is a minimum, not a maximum. Sometimes when the posted speed limit is reduced, drivers do not obey the new limit or even pay attention to it unless there is significant enforcement. Therefore, in order to increase safety as well as mobility, more efforts are needed to understand drivers' speed choices and create a culture of complying with a posted speed limit.

DISCUSSIONS

Challenges on the current practice for setting a speed limit

As found through the literature review and survey of traffic professionals, many jurisdictions in the United States determine a speed limit based on their own practices, engineering studies and/or law requirements that often rely on the 85th percentile operating speed. The ideas supporting this are that "the majority of drivers respond in a safe and reasonable manner as demonstrated by their consistently favorable driving records" and that "the normally careful and compete actions of a reasonable person should be considered legal (Forbes, 2012)."

However, observed speed data (Fitzpatrick et al., 2003) as well as self-reported survey data (Royal, 2004; AAAFTS, 2018) have consistently shown that only a small portion of drivers travel at or below posted speed limits regardless of road type (i.e., interstate highway and nonfreeway). Mannering (2009) pointed out that drivers are inclined to exceed speed limits mainly due to their belief that speeding does not threaten their safety. Drivers' inaccurate judgment on road travel risk, their vehicle capability and driving skills could lead to variances of travel speeds and as a result, higher crash rates (Garber and Gadiraju, 1989; Wang et al., 2018).

Further, using the 85th percentile was based on findings from a study (Solomon, 1964) that traveling near or slightly above the average speed (in general, approximately the 85th percentile speed) would result in the lowest crash risk. This study also pointed out that crash involvement rates increase as travel speed becomes either lower or higher than the average. However, these findings have been criticized by several researchers (White and Nelson, 1970; Davis, 2002; Kloeden et al., 2001) who asserted that the data used for this study were questionable (i.e., using drivers' estimates on pre-crash speeds, excluding a majority of low-speed crashes at intersections and entrances to businesses, etc.) and use of such biased data contributed to the increase in crash risk at relatively low traveling speeds.

Another rationale behind the use of the 85th percentile speed is that speed limits should be credible — they need to reflect what most drivers expect about travel speed in order to keep them fully responsive (i.e., compliant with the posted speed limit). Fitzpatrick et al. (2003) noted that speed limits lower than 85th percentile speed discourage drivers' compliance with the posted speed limit. This practice, however, may lead to the increase of the 85th percentile speed over time as technologies improve (Hauer, 2009). This would steadily increase not only operating speeds, which have been shown to be associated with higher crash frequency (Gargoum and El-Basyouny, 2016; Imprialou et al., 2016) and crash severity (Moore et al., 1995), but also the probability of fatal injury to all road users in a vehicle crash (Wramborg, 2005).

Future of practices for setting a speed limit

The major concern around current speed-limit posting practices in the United States — both engineering study and expert system approaches — is that they are disproportionally focused on the mobility (operation) aspect. Most practitioners responding to the survey claimed that other factors including safety, road context and community considerations are acknowledged. However, the typical procedure in an engineering study many times results in maximum speed limits at or near the 85th percentile travel speed even after taking into account other aspects (mainly safety and road context) based

on subjective engineering judgments. By contrast, the injury minimization or Safe System approach pursues zero tolerance for injury-producing crashes, and often it results in unacceptable outcomes (low speed limits) for many jurisdictions and the public. Further, the public commonly views this approach as an unjustified speed limit trap.

In aiming to improve both mobility and safety platforms for setting a speed limit, some countries employ a road risk method. For example, New Zealand considers both personal (individual vehicle) and collective risks (network level) along a roadway and assesses the road safety level (so-called "infrastructure risk rating (IRR)") utilizing eight key features that include road context, traffic conditions and geometry aspects to identify the safe and appropriate speed (NZ Transport Agency, 2016). This procedure aims to identify roads or segments that yield the most significant benefits in addressing misalignment between speed limits, current travel speeds and safe, appropriate travel speeds. Classifying the roads or road segments into three intervention categories based on safety risk level and investment criteria allows prioritization of efforts and available resources to achieve the highest benefit for both safety and economic productivity.

Additionally, road authorities may need to put more effort (beyond posted speed limit signs and markings) toward making roads and the traffic environment safer – to "elicit safe behavior simply by its design" (Theeuwes and Godthelp, 1995). For example, roads with high volumes of pedestrians and bicyclists can be redesigned with narrow lanes and many curves so that drivers naturally reduce travel speeds (i.e., "self-explaining" or "self-enforcing" road). Another safety design approach that would not compromise mobility could include implementing road safety treatments, such as median separations or guardrails, on high-speed rural roads.

To increase the effectiveness of any speed management countermeasure, it is also important to create a culture of complying with a speed limit through understanding drivers' perception of speed limits and safety, as several practitioners addressed in the survey. A study conducted by Kanellaidis et al. (1995) reported that in general, drivers who believe that speed limits can reduce crashes were more likely to observe the limits. Kanellaidis et al. also found that speed limit compliance increased as drivers aged but decreased as they gained driving experience and their education level increased. Another study conducted by Mannering (2009) found that enforcement is a particularly important aspect of speed limit posting compliance. According to this study, drivers are likely to determine what they believe a safe speed is depending on whether they receive a citation. Recognizing the widespread disrespect for posted speed limits means that along with high levels of enforcement, continuous efforts must put into public education and awareness around the danger of speeding.

Future work

Based on the findings reported in this document, the AAA Foundation for Traffic Safety will continue contributing to speed-related safety improvements through rigorous research. More studies on assessing the relationship between fatality risks and speeds for all road users in various crash types are needed. While there are a significant number of studies examining speed and pedestrian fatality risk in vehicle crashes (ECMT 2006; Grzebieta et al., 2009; Tefft, 2013), studies examining fatal risks for other road users (drivers and passengers) in various crash types (head-on, angle and collision with fixed objects) are lacking. Results of these studies provide the foundation for advocating for more safety considerations in setting speed limits. Additionally, a quantitative study examining the impact of changes in speed limits on traffic safety is needed. Such a study is expected to help understand changes in drivers' behaviors and consequences on traffic safety when a speed limit is either raised or lowered.

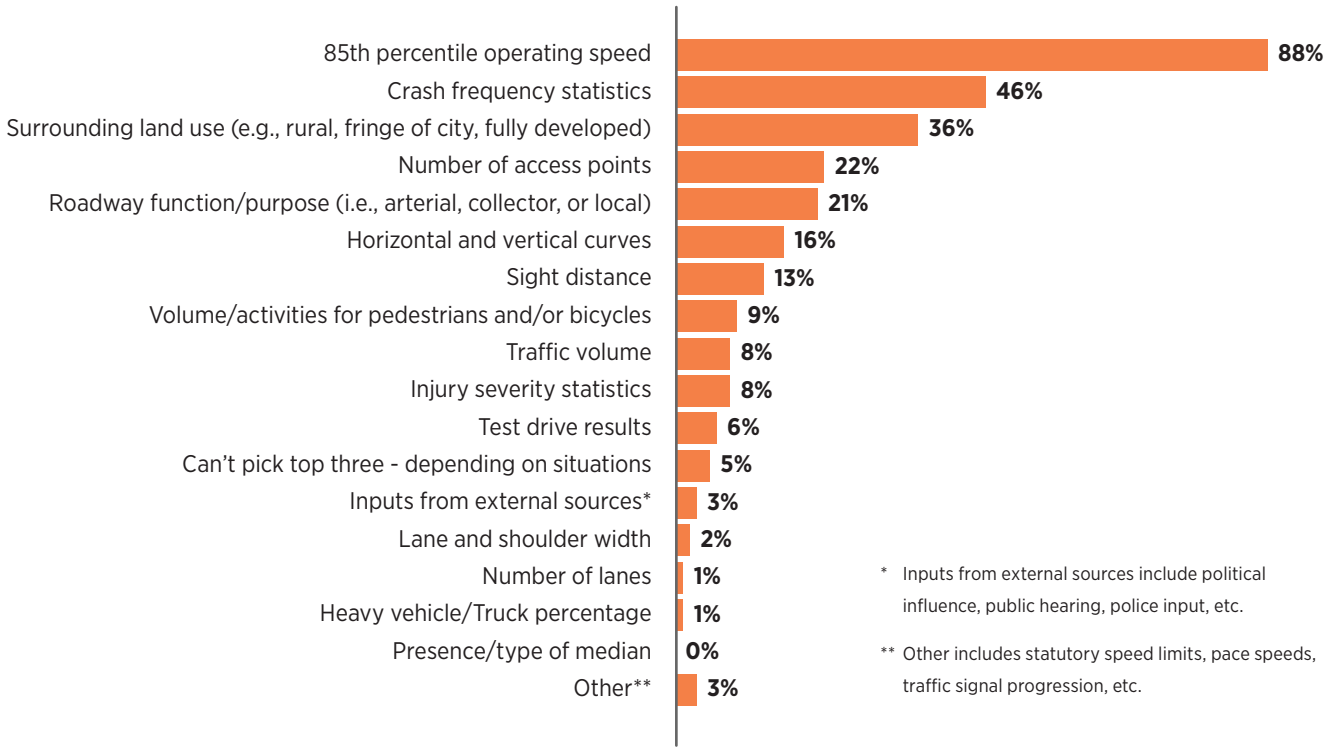
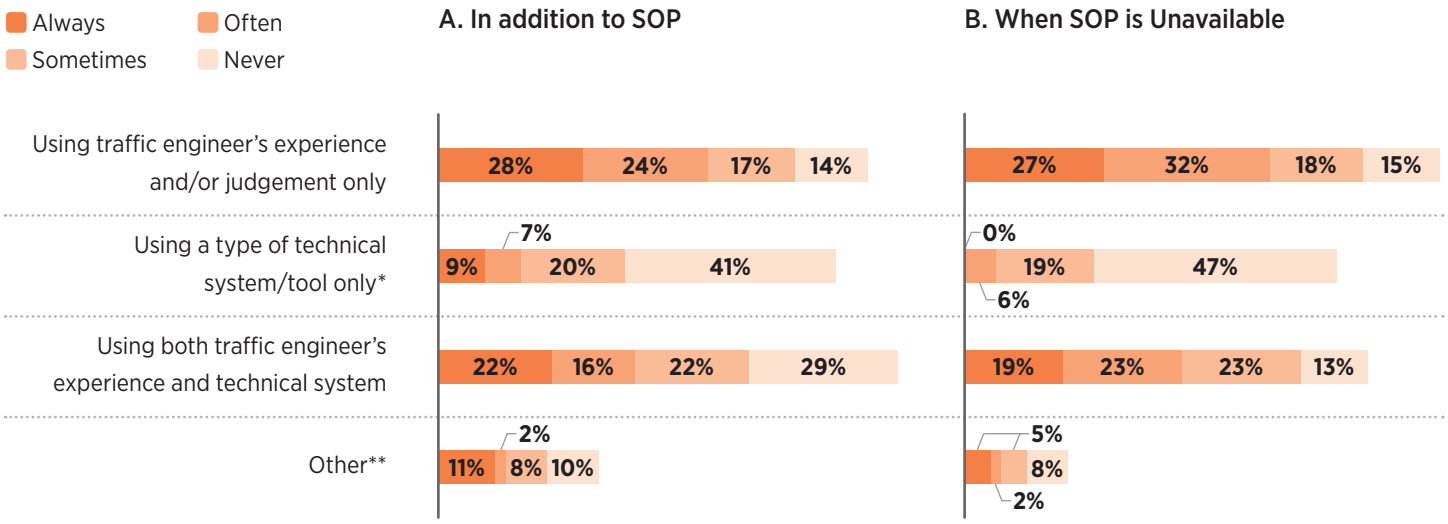


Figure 1. Prevalence of factors that traffic professionals consider the most when setting speed limits



* Technical system/tool refers to USLIMITS, USLIMITS2, simulations, etc.

** Other includes inputs from public/police/politics, agency's own tool/manual, statutory speed limits, MUTCD, and so on.

Figure 2. Prevalence of approaches that traffic professionals use to set speed limits

Figure 3. Reasons that traffic professionals do not use the expert system (USLIMITS and USLIMITS2)

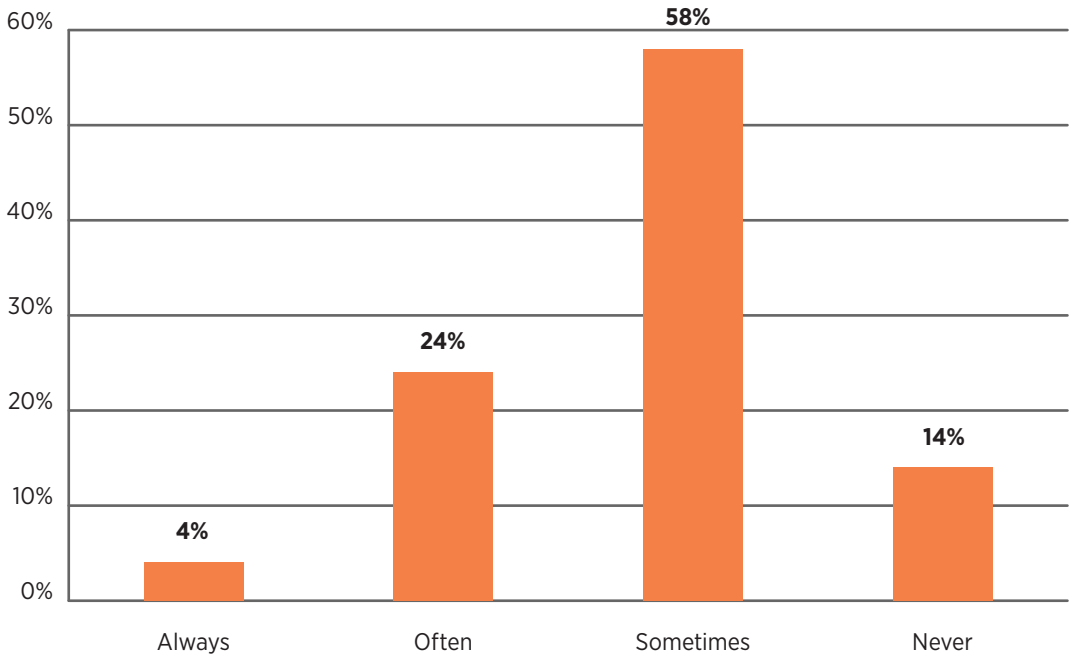


Figure 4. Prevalence of considerations in implementing speed management measures when a speed limit changes

REFERENCES

AAA Foundation for Traffic Safety (2018). 2017 Traffic Safety Culture Index. *AAA Foundation for Traffic Safety.*

Davis, G. A. (2002). Is the claim that 'variance kills' an ecological fallacy?. *Accident Analysis & Prevention, 34*(3), 343-346.

European Conference of Ministers of Transport, & OECD/ECMT Transport Research Centre. (2006). *Speed management*. OECD Publishing.

Farmer, C. M., Retting, R. A., & Lund, A. K. (1999). Changes in motor vehicle occupant fatalities after repeal of the national maximum speed limit. *Accident Analysis & Prevention*, *31*(5), 537-543.

Federal Highway Administration, *Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 Edition*. http://mutcd.fhwa.dot.gov.

Forbes, G. (2012). *Methods and practices for setting speed limits: An informational report* (No. IR-133).

Fitzpatrick, K., Carlson, P., Brewer, M. A., Wooldridge, M. D., & Miaou, S. P. (2003). *Design speed, operating speed, and posted speed practices* (No. Project 15-18 FY'98).

Fitzpatrick, K., Krammes, R. A., & Fambro, D. B. (1997). Design speed, operating speed and posted speed relationships. *Institute of Transportation Engineers. ITE Journal*, *67*(2), 52.

Fitzpatrick, K., McCourt, R., & Das, S. (2019). Are attitudes changing with respect to the setting of speed limits? In *Proceedings of the Transportation Research Board 98th Annual Meeting*, Washington, DC.

Garber, N. J., & Gadiraju, R. (1989). Factors affecting speed variance and its influence on accidents. *Transportation Research Record: Journal of Transportation Research Board*, (1213), 64-71.

Gargoum, S. A., & El-Basyouny, K. (2016). Exploring the association between speed and safety: A path analysis approach. *Accident Analysis & Prevention*, 93, 32-40.

Grzebieta, R. H., Hatfield, J., Olivier, J., Chong, S., Watson, W., & Falster, M. (2009). Inquiry into Pedestrian Safety. Submission to *Staysafe Committee on Research Relating to Pedestrian Injuries and Fatalities*.

Hauer, E. (2009). Speed and safety. *Transportation Research Record: Journal of the Transportation Research Board*, (2103), 10-17.

Imprialou, M. I. M., Quddus, M., Pitfield, D. E., & Lord, D. (2016). Re-visiting crash–speed relationships: A new perspective in crash modelling. *Accident Analysis & Prevention*, 86, 173-185.

Kloeden, C. N., Ponte, G., & McLean, J. (2001). *Travelling speed and risk of crash involvement on rural roads*. Australian Transport Safety Bureau.

Kockelman, K., Bottom, J., Kweon, Y. J., Ma, J., & Wang, X. (2006). *Safety impacts and other implications of raised speed limits on high-speed roads* (Vol. 90). Transportation Research Board.

Lave, C., & Elias, P. (1994). Did the 65 mph speed limit save lives? *Accident Analysis and Prevention*, 6(1), 49–62.

Lemer, A. C. (2007). An expert system for recommending speed limits in speed zones. *Transportation Research Board*, *500*(5).

Mannering, F. (2009). An empirical analysis of driver perceptions of the relationship between speed limits and safety. *Transportation Research Part F: Traffic Psychology and Behaviour*, 12(2), 99-106.

McCarthy, P. (2001). Effect of speed limits on speed distributions and highway safety: A survey of recent literature. *Transport Reviews*, 21(1), 31–50.

Moore, V. M., Dolinis, J., & Woodward, A. J. (1995). Vehicle speed and risk of a severe crash. *Epidemiology*, 258-262.

NZ Transport Agency, NZ Speed Management Guide First Edition, 2016

Royal, D. (2004). *National survey of speeding and unsafe driving attitudes and behaviors: 2002. Volume 2, Findings* (No. DOT-HS-809-730). United States. National Highway Traffic Safety Administration.

Sayed, T., & Sacchi, E. (2016). Evaluating the safety impact of increased speed limits on rural highways in British Columbia. *Accident Analysis & Prevention*, *95*, 172-177.

Tefft, B. C. (2013). Impact speed and a pedestrian's risk of severe injury or death. *Accident Analysis & Prevention*, *50*, 871-878.

Theeuwes, J., & Godthelp, H. (1995). Self-explaining roads. *Safety Science, 19*(2–3), 217-225.

Vadeby, A., & Forsman, Å. (2018). Traffic safety effects of new speed limits in Sweden. *Accident Analysis & Prevention, 114*, 34-39.

Wang, X., Zhou, Q., Quddus, M., & Fan, T. (2018). Speed, speed variation and crash relationships for urban arterials. *Accident Analysis & Prevention*, *113*, 236-243.

White, S. B., & Nelson, A. C. (1970). Some effects of measurement errors in estimating involvement rate as a function of deviation from mean traffic speed. *Journal of Safety Research*.

Wramborg, P. (2005). A new approach to a safe and sustainable road structure and street design for urban areas. In *Proceedings of the Road Safety on Four Continents Conference* (Vol. 13, pp. 12p-12p). Conference Sponsor.

ABOUT THE AAA FOUNDATION FOR TRAFFIC SAFETY

The AAA Foundation for Traffic Safety is a 501(c)(3) nonprofit, publicly supported charitable research and education organization. It was founded in 1947 by the American Automobile Association to conduct research to address growing highway safety issues. The organization's mission is to identify traffic safety problems, foster research that seeks solutions and disseminate information and educational materials. AAA Foundation funding comes from voluntary, tax-deductible contributions from motor clubs associated with the American Automobile Association and the Canadian Automobile Association, individual AAA club members, insurance companies and other individuals or groups.

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APPENDIX (SURVEY QUESTIONNAIRE)

Q1. When considering raising or lowering a posted speed limit on existing roadways, does your agency consider the 85th percentile operating speed (the speed at which 85th percentile of free-flow traffic is traveling at or below)?

1. Yes
2. No [Go to Q3]
3. Not sure [Go to Q3]

[If Q1 is 1]

Q2. Then, how often does your agency only consider the 85th percentile operating speed when considering changes in speed limits?

1. All the time [Go to Q5]
2. Most of time
3. Sometimes
4. Never
5. Not sure

Q3. What factors do you consider the most when deciding to raise or lower a speed limit? Select your top three factors. [Randomly listed]

- Traffic volume
- Volume/activities for pedestrians and/or bicycles
- Roadway function/purpose (i.e., arterial, collector, or local)
- Lane and shoulder width
- Number of lanes
- Presence/type of median
- 85th percentile operating speed
- Horizontal and vertical curves
- Sight distance
- Number of access points
- Surrounding land use (e.g., rural, fringe of city, fully developed)
- Crash frequency statistics
- Injury severity statistics
- Test drive results
- Heavy vehicle/Truck percentage
- Other (please specify)

Q4. Does your agency have a standard operating procedure/policy (SOP) when making a recommendation/decision on raising or lowering a speed limit on existing roadways?

1. Yes
2. No [Go to Q6-B]
3. Not sure [Go to Q6-B]

[If Q4 is 1]

Q5. When making a recommendation/decision on raising or lowering a speed limit, how often do you *only* use your agency's SOP?

1. All the time
2. Most of time
3. Sometimes
4. Never
5. Not sure

Q6-A. In addition to your agency's SOP, *what other resources/materials* do you usually use when incorporating the factors you selected in the previous question?

A. Traffic engineer's experience and/or judgment **only**
   1. All the time
   2. Most of time
   3. Sometimes
   4. Never

B. A type of technical system/tool (e.g., USLIMITS, USLIMITS2, CORSIM, etc.) **only**
   1. All the time
   2. Most of time
   3. Sometimes
   4. Never

C. Using **both** traffic engineer's experience (judgment) and technical system
   1. All the time
   2. Most of time
   3. Sometimes
   4. Never

D. Other (please specify)

[If Q4 is 2 or 3]

Q6-B. Then, how do you work with those factors you selected in the previous question to make a recommendation/decision for raising or lowering a speed limit?

A. **Only** using traffic engineer's experience and/or judgment
   1. All the time
   2. Most of time
   3. Sometimes
   4. Never

B. **Only** using a type of technical system/tool (e.g., USLIMITS, USLIMITS2, CORSIM, etc.)
   1. All the time
   2. Most of time
   3. Sometimes
   4. Never

C. Using **both** traffic engineer's experience (judgment) and technical system (tool)
   1. All the time
   2. Most of time
   3. Sometimes
   4. Never

D. Other (please specify)

Q7. What is your understanding of the USLIMITS or USLIMITS2?

1. Excellent
2. Good
3. Basic or Fair
4. No understanding
5. Never heard about it

[If Q7 is 1, 2, or 3]

Q8. When deciding whether to raise or lower a speed limit, how often do you use USLIMITS or USLIMITS2 to base your decision?

1. Always [Go to Q10]
2. Often [Go to Q10]
3. Sometimes
4. Never

[If Q8 is 3 or 4]

Q9. If you do not use USLIMITS or USLIMITS2 often, what is your reason for ***not using*** it? Select all that apply.

1. Too difficult to understand and/or use
2. Required (or recommended) data is not available
3. My agency does not recommend using it
4. My agency does not provide training
5. Other (please specify)

Q10. Are there other strategies (or tools) that you have used that worked well in making a recommendation/decision for raising or lowering a speed limit?

1. Yes
2. No

[If Q10 is Yes]

Q10-A. Could you please tell us a bit about these other strategies (or tools)? [text box]

Q11. When a posted speed limit changes, how often does your agency also consider implementing speed management measures to compensate for the potential increased risk, such as stricter enforcement or infrastructure upgrades (e.g., installing guardrails, physical barrier on median, adding a shoulder lane, etc.)?

1. Always
2. Often
3. Sometimes
4. Never

Q12. What are the common ***top two reasons*** to raise a posted speed limit?

1. Request from the general public to improve safety
2. Request from the general public to improve mobility
3. Request from political debate/decision
4. Environmental concerns/reasons
5. Change in infrastructure or network (e.g., lane (or shoulder) drops/additions, addition of a physical barrier on median, opening a new road near existing roads, etc.)
6. Other (please specify)

Q13. What are the common ***top two reasons*** to lower a posted speed limit?

1. Request from the general public to improve safety
2. Request from the general public to improve mobility
3. Request from political debate/decision
4. Environmental concerns/reasons
5. Change in infrastructure or network (e.g., lane (or shoulder) drops/additions, addition of a physical barrier on median, opening a new road near existing roads, etc.)
6. Other (please specify)

Q14. The AAA Foundation for Traffic Safety (AAAFTS) will be conducting a case study to investigate the impact of posted speed limit changes (lowering or raising) on traffic safety in the next few years (likely 2019 and 2020). Would you be interested in collaborating with AAAFTS on such a study (for example, sharing data, providing advice on selecting a study site, etc.)?

1. Yes, we might be interested. Please contact us to further discuss.
   [text box for name, email, and phone number]
2. No, we are not interested at this time.

Q15. Do you have any comments regarding your practices (or methods) to lowering or raising a posted speed limit (challenges, concerns, better ideas, etc.)

Q16. Which state do you currently work in?

Q17. What type of agency are you currently working at?

1. Local (municipal or county level)
2. State
3. Other (please specify)