Speed Zoning Information

A Case of "Majority Rule"
### (Within the United States)

EXECUTIVE SUMMARY

What Realistic Speed Limits Do:
- ➤ Encourage compliance from the majority of drivers;
- ➤ Give a clear reminder of reasonable and prudent speeds;
- ➤ Provide an effective enforcement tool to the police;
- ➤ Minimize public antagonism toward police enforcement, which results from obviously unreasonable regulations; and
- ➤ Encourage drivers to travel at the speed where the risk of crash involvement is the lowest.
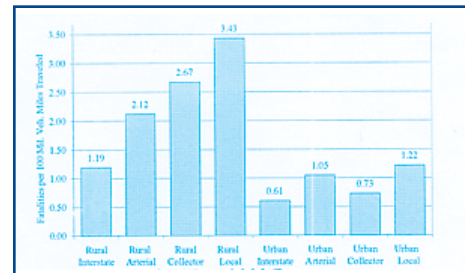
What Unrealistic Speed Limits Do:
- ➤ Discourage voluntary compliance;
- ➤ Create the perception of "speed traps;"
- ➤ Cause public antagonism toward the police;
- ➤ Create a bad image for a community in the eyes of tourists; and
- ➤ May increase the potential for crashes.
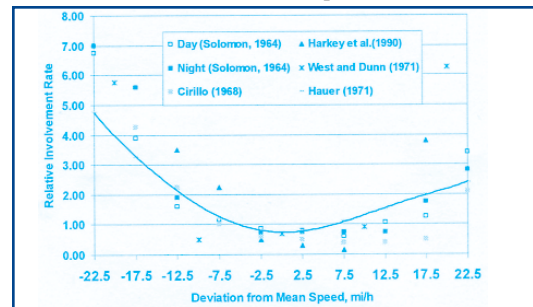
WHY SPEED LIMITS?

Generally, traffic laws that reflect the behavior of the majority of motorists are found to be successful, while laws that arbitrarily restrict the majority of motorists encourage violations, lack public support and usually fail to bring about desirable changes in driving behavior. This is especially true of speed zoning.

Speed zoning is based on several fundamental concepts deeply rooted within the American system of government and law:
- A. Driving behavior is an extension of social attitude and the majority of drivers respond in a safe and reasonable manner as demonstrated by consistently favorable driving records;
- B. The normally careful and competent actions of a reasonable person should be considered appropriate;
- C. Laws are established for the protection of the public and the regulation of unreasonable behavior on the part of individuals; and
- D. Laws cannot be effectively enforced without the consent and voluntary compliance of the public majority.

COMMON MISCONCEPTIONS

The public normally accepts the concepts noted above. However, when emotionally aroused in a specific instance, the same public will often reject these fundamentals and rely instead on more comfortable and widely-held misconceptions such as:
- A. Reducing the speed limit will slow the speed of traffic;
- B. Reducing speed limits will decrease the number of crashes and increase safety;
- C. Raising the posted speed limit will cause an increase in the speed of traffic;
- D. Any posted speed limit must be safer than an unposted speed limit; and
- E. Drivers will always go 5 mph over the posted speed limit.

INTENT OF SPEED ZONING

The most widely accepted method by state and local agencies is to set the limit at or below the speed at which 85 percent of the traffic is moving. The 85th percentile speed is how drivers "vote with their feet." Studies have shown crash rates are lowest at around the 85th percentile

speed. Drivers traveling significantly faster OR slower than this speed are at a greater risk for being in a crash. It is not high speeds alone that relate to crash risk; it is the variation of speed within the traffic stream.

Source: U.S. DOT PUBLICATION NO. FHWA-RD-98-154, 1998.

In fact, on a per mile driven basis, high speed roadways, like interstates, have a lower speeding related fatality rate than low speed roadway. Large variations in speed within the traffic stream create more conflicts and passing maneuvers.

Source: U.S. DOT Year 2000 Data.

HOW SPEED LIMITS ARE ESTABLISHED

According to a Federal Highway Administration study, all states and most local agencies use the 85th percentile speed of free flowing traffic as the basic factor in establishing speed limits.

Radar, laser and other methods are used to collect speed data from random vehicles on a given roadway. This speed is subject to revision based upon such factors as: crash experience, roadway geometrics, parking, pedestrians, curves, adjacent development and engineering judgment. This practice is in accordance with the MUTCD.

In the final analysis, it is the judgment of the traffic engineer that determines which, if any, of the factors in the speed study warrant an adjustment of the 85th percentile speeds. After all variables are considered and a speed limit is established, traffic should flow at a safe and efficient level.

Members of the Committee:

Rick Staigle, *Chair* — Robert Turner
Andrew O'Brien — Steve Taylor
Bruce Ward Jr. — Steven Jones Jr.
Dave Wong-Toi — Jim Hansen
David Clark — Kay Fitzpatrick
Dennis Morford — Dustin Qualls
Kent Collins — James Cheeks Jr., *ITE Staff*

Institute of Transportation Engineers