

## Why Speed Limits?

Speed limits are supposed to do two things. The primary purpose of speed limits is to enhance safety by reducing risks imposed by drivers speed choices. The intent is to reduce disparities in speeds and reduce the potential for vehicle conflicts. A related function of speed limits is to provide the basis for enforcement and sanctions for those who drive at speeds excessive for conditions and endanger others.

### LAW

Prima facie speed limits are those which, "on the face of it," are reasonable and prudent under normal conditions. Normally a driver may exceed a prima facie limit if it is safe to do so; however it is up to the driver to prove that he was driving in a safe manner under existing conditions.

In Colorado, basic prima facie speed limits are:

- 20 mph on narrow, winding mountain roads
- 25 mph in any business district
- 30 mph in any residential district
- 40 mph on open mountain highways

Absolute speed limits are those which may not be legally exceeded under any circumstances. These are:

- 65 mph on open highways
- 75 mph on rural interstate routes

Section 42-4-1102, Colorado Revised Statutes, requires that speed limits are not to be higher or lower than the basic prima facie speed limits unless a Traffic Investigation has justified the change. This law applies to all State Highways, County Roads and City Streets. For State Highways, including portions within municipal corporate limits, the Investigation to justify an increase or decrease of existing speed limits is normally conducted by, and approved by, the Safety and Traffic Engineering Branch of the Colorado Department of Transportation.

Each Investigation to determine an appropriate speed limit should consider the following factors applicable to the portion of road being studied.

- Prevailing speed data (85th percentile)
- Roadside development
- Accident experience
- Road characteristics
- Pace speed
- Parking practices/pedestrian activity

The use of vehicle speed data as one of the factors evaluated for selecting a suitable speed limit is based upon the following fundamental concepts deeply rooted in the United States system of government and law:

- A) Laws cannot be effectively enforced without the consent and voluntary compliance of the public;
- B) Laws are established for the protection of the public and the regulation of the unreasonable behavior of a few individuals;
- C) The normally careful and competent actions of a reasonable person should be considered legal;
- D) Most drivers are reasonable people who will drive carefully at a speed which is suitable for existing conditions.

### MISCONCEPTIONS

It is a popular misconception that reducing the speed limit will automatically slow the speed of traffic, while raising the speed limit will automatically cause an increase in the speed of traffic.

"Before and After" speed studies show that there are no significant changes in vehicle

speeds after speed limits are changed. "Before and After" accident studies usually do not show any significant change in accident rates after speed limits are increased or decreased. National studies go further and say that "it is generally at the upper boundary of a speed range where crash involvement rates are lowest."

### UNREALISTIC SPEED LIMITS

Traffic investigations have shown that most people will drive the roadway as they perceive the conditions and will ignore a speed limit that is unrealistically too low or too high. A realistic speed limit is voluntarily obeyed by the reasonable majority and more enforcement effort can be applied to the unreasonable few who drive too fast or too slow.



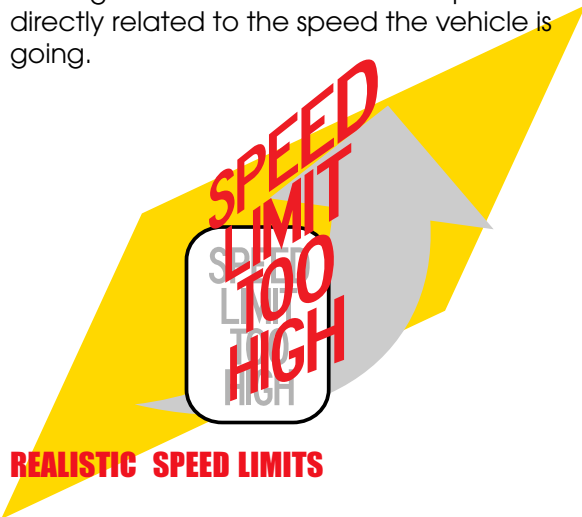
An unrealistic speed limit that is "too low" will:

- A) Make the behavior of the majority unlawful;
- B) If enforced - cause antagonism toward enforcement personnel and traffic laws in general;
- C) Create a bad image of the community for visitors and tourists;
- D) Result in speed differentials in the traffic flow.

Speed as it relates to accident causality is primarily related to speed differentials. Speed differential is the range of vehicle speeds within the traffic stream. A large variation in these speeds complicates the driving task and necessitates sudden braking, multiple lane changes and other compensating driving maneuvers.

A speed limit properly set, will establish a middle ground for all drivers encouraging some to speed up while enticing others to slow down. This then reduces turbulence within the traffic stream and limits conflict points and reduces accidents.

There is no question, however, that speed plays a role in accident severity. Once an accident has begun to occur the degree of damage to a vehicle and its occupants is directly related to the speed the vehicle is going.



An appropriate, "just right" speed limit will result in the maximum number of vehicles traveling at about the same speed, thus reducing conflicts caused by speed differentials. The 85th percentile speed, that speed at or below which 85% of the traffic is moving, is widely accepted as being closest to that "just right" speed limit - a case of Majority Rule. Of course, other Traffic Investigation factors must be taken into consideration.

Following are some reasons for establishing realistic speed limits:

- A) To provide guidance to the driver, especially strangers to the area, as to what is a suitable speed for normal conditions;
- B) Reasonable speed limits with adequate signing tend to reduce the speed difference between vehicles. The accident rate is less when the majority of vehicles are traveling at about the same speed;
- C) To furnish enforcement personnel with a guide as to what is an appropriate speed for a segment of road so that enforcement actions may be consistent and fair;
- D) To improve the overall credibility of all traffic control devices.

### WHAT YOU CAN DO

Anyone may report a road segment where the speed limit seems to be too high or too low. If the segment is a portion of county road or city street, contact should be made with that county or municipality. If the segment is a portion of the State Highway System, including U.S. and Interstate routes, contact should be with the Region's Traffic and Safety Engineer of the Colorado Department of Transportation.



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# Establishing Realistic SPEED LIMITS

