

How Are Speed Limits Established?

Speed limits are a traffic engineering tool used to derive the best traffic service for a given set of roadway conditions. Generally speaking, traffic laws that reflect the behavior of the majority of vehicle operators are found to be successful, while laws that arbitrarily restrict the majority of drivers encourage violations, lack public support, and usually fail to bring about the desired changes in driving behavior. This is especially true of speed limits. The general public will often rely on widely held misconceptions regarding speed limits, such as:

1. Speed limit signs will slow the speed of traffic.
2. Speed limit signs will decrease the accident rate and increase safety.
3. Raising a posted speed limit will cause an increase in the speed of traffic.
4. Any posted speed limit must be safer than an unposted speed limit, regardless of the prevailing traffic and roadway conditions.

"Before and after" studies consistently demonstrate that there are no significant changes in traffic speeds following the posting of new or revised speed limits. Furthermore, no published research findings have established any direct relationship between posted speed limits and accident frequency, although short-term reductions have resulted from enforcement efforts directed at speed and other traffic law violations.

Police agencies necessarily rely on reasonable and well-recognized speed laws to control the violator whose behavior is clearly out of line with the normal flow of traffic. It is accepted within the traffic engineering profession that there is a demonstrated need to produce as much uniformity as possible in the traffic flow and to eliminate the so-called speed trap. A speed trap may be defined as a street or road which is wide, straight, and smooth enough, and sufficiently free of visibility-limiting obstructions to permit driving a certain speed, but where the law nevertheless calls for a much lower speed.

WHAT REALISTIC SPEED LIMITS DO

Realistic speed limits are important for a variety of reasons:

- They invite public compliance by conforming to the behavior of the majority.
- They give a clear reminder of reasonable and prudent speeds to non-conforming violators.
- They offer an effective enforcement tool to the police.
- They tend to minimize the public antagonism toward police enforcement which results from obviously unreasonable regulations.

WHAT UNREALISTIC SPEED LIMITS DO

Unrealistic speed limits are also important for the following reasons:

- They do not invite voluntary compliance, since they do not reflect the behavior of the majority.
- They make the behavior of the majority unlawful.
- They maximize public antagonism toward the police, since the police are enforcing a "speed trap."
- They may create a bad image for a community.

HOW REALISTIC SPEED LIMITS ARE ESTABLISHED

South Carolina Law (56-5-1520) allows the establishment of speed limits "upon the basis of an engineering and traffic investigation."

Speed zoning in South Carolina is based on the widely accepted principle of setting speed limits as near as practicable to the speed at or below which 85 percent of the drivers are traveling, known as the 85th percentile speed. This speed is subject, of course, to downward revision based upon such factors as: accident experience, roadway geometrics, and adjacent development. Some questions which need to be answered prior to establishing a speed limit are:

- Is the section of roadway sufficiently long enough to permit safe accelerating and decelerating for the 85th percentile speed?
- Is the alignment, both vertical and horizontal, capable of safely accommodating vehicles traveling at the 85th percentile speed?
- Are the lane widths, traffic volumes, and surface conditions compatible with this speed?
- Will a vehicle traveling at the 85th percentile speed be capable of making a safe and smooth stop, if necessary?
- Has a pattern of accidents developed which would indicate that the 85th percentile speed is not appropriate?
- Is a certain speed limit necessary to provide signal progression?
- Is development adjacent to the roadway causing a significant amount of turning maneuvers or congestion?

Through field studies and speed measurements, speed limits can be established to control traffic flow and ensure public safety without being unreasonable.