

TRAFFIC AND SAFETY INFORMATIONAL SERIES FREQUENTLY ASKED QUESTION #10

HOW DO YOU CHOOSE THE POSTED SPEED LIMIT AND WHERE DO YOU PUT THE SIGNS?

THE DETERMINATION OF A POSTED SPEED LIMIT

In Iowa, several jurisdictions (e.g. the state, counties, and cities) have the authority to establish speed limits on roadways between 25 and 55 miles per hour (mph). The actual posted speed limit on a particular roadway, however, is typically established from the results of a traffic engineering study or survey. In general, these investigations analyze existing roadway conditions, collision records, and/or the prevailing speed of most drivers. The following factors are typically considered:

- the 85th percentile speed (determined by observing a sizable sample of vehicles)
- road surface characteristics
- roadside development
- the safe speed for curves or hazardous locations within the area
- parking practices and pedestrian activity
- reported collision experience

In many cases, the primary determining factor is the 85th percentile speed of the vehicles already using a particular segment of roadway. This is the speed at or below which 85 percent of vehicles travel on a given roadway (see Figure 1 for a typical distribution of speeds on a roadway). This speed is generally considered reasonable and safe.

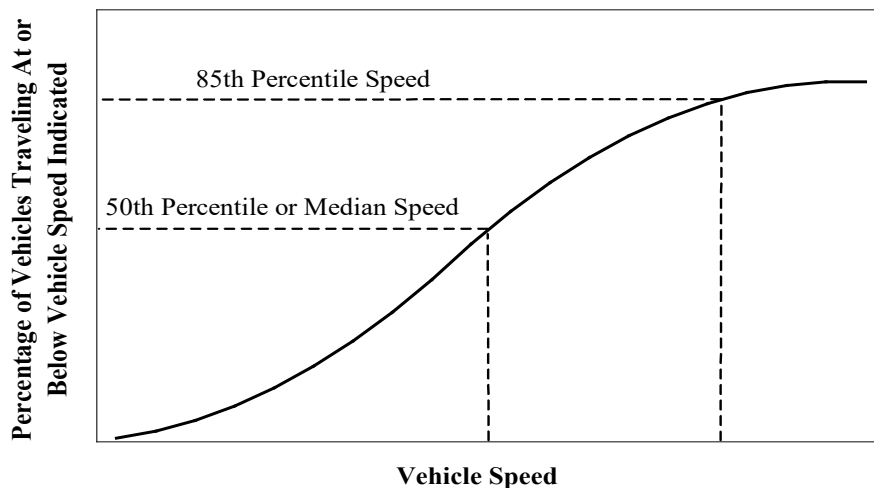


FIGURE 1 Typical distribution of vehicle speeds.

Reference: *Speed Zoning on Iowa Highways*, Iowa Department of Transportation.

The 85th percentile speed is an important roadway characteristic when determining a speed limit. It represents a speed most vehicles are at or below along a roadway segment, and this speed is

primarily based on the driver's sense of comfort and safety, and the characteristics and overall environment of the roadway. Therefore, setting a speed limit at or near the 85th percentile speed is preferable because the overall objective should be to set a speed limit most drivers will obey. If the speed limit is set too low, some of the drivers will obey it, and others (possibly the majority) will ignore it. This situation will actually decrease the overall safety of a roadway because it will have a larger range of vehicle speeds. A speed limit that is set too high can produce a similar situation. The safest situation is when every vehicle (or at least the majority of vehicles) on the roadway travel at the same speed.

The "Speed Limit" sign displays what is considered to be a reasonable speed for the roadway segment during typical driving conditions. These speeds are based on the results of an engineering study into the factors listed previously. They are normally displayed in increments of 5 mph.

LOCATION OF THE "SPEED LIMIT" SIGN

There is no standard spacing for speed limit signs along roadway segments. The only requirement in the *Manual on Uniform Traffic Control Devices* (MUTCD) is that speed limit signs be located at the beginning of a roadway segment with a different speed limit. The MUTCD also suggests that additional speed limit signs be installed near major intersections as a reminder to motorists. Speed limit signs are also generally placed to the right of the roadway, but supplemented on the left along one-way roadways (the view of the driver in the left lane may be obstructed to the right).

SPEED RESTRICTIONS IN THE IOWA CODE

There are also legislative restrictions on speed limits in Iowa. In the Iowa Code, speed limits are restricted to 20 mph in any business district, 25 mph in any residence or school district, and 45 mph in any suburban district. A general application of these restrictions, however, can produce unreasonable situations, and the speed limits tend to be ignored. The local governmental entities in control of a particular roadway segment can, therefore, alter the speed limits required in the code when the results of an engineering and traffic investigation deem that a higher speed limit is more reasonable and safe. However, local authorities in Iowa do not have the ability to authorize speed limits greater than 55 mph. Roadways that have speeds higher than 55 mph must be analyzed by the Iowa Department of Transportation.

For more information

For more information, please contact _____.