Setting Speeds in Oregon

Aside from the Basic Rule which applies to all roadways in Oregon, the law provides two ways for speeds to be set. To distinguish between them, we refer to them generally as "statutory speeds" and "designated speeds".

A **statutory speed** is one that is specifically described in the law (Oregon Revised Statutes), such as 15 mph in an alley, 20 mph in a business district, 20 mph in a school zone, 25 mph in a residence district, and 65 mph on most freeway sections. (Business and residence districts have to meet very specific criteria to be legally considered as such.)**1[1]** Technically, Basic Rule is itself also a statutory speed, given that its conditions are described in the statutes.

All other speeds are **designated speeds**, set under the authority of the State Traffic Engineer in Salem, after an engineering (speed zone) investigation has been conducted. This authority applies not only to state highways, but also to county roads and city streets.**2[2]** While designated speeds are provided for in the statutes as well, their details (procedures and conditions) are described in Oregon Administrative Rules (OAR), which have the force of law.

In the course of a speed zone investigation, many factors are taken into account, some of them objective and some subjective in nature. Those factors include roadway and roadside characteristics, horizontal and vertical alignment (curves, hills, etc.), crash history, volume of vehicle traffic, types of vehicles that use the road, pedestrian and bicycle usage, and the 85th percentile speed.

The 85th percentile speed, one of those objective factors, is used the world over for setting speeds, is the most important factor of all, and must be the first thing taken into account before any other factors are considered. It is determined by collecting a large enough sample of free-flowing traffic speeds to make the calculation. Normally, a hand held device such as a laser or radar gun is used, but rubber tube counters or in-road Automatic Traffic Recorders can also be used, if they are set up to collect speeds.

As stated above, the 85th percentile speed is used by roadway authorities in most of the world to set speeds. The engineering principle for it is as follows:

On any given roadway under normal free-flowing traffic and not during adverse weather conditions (regardless of whether or not it has speed signs posted), 85 percent of all motorists will drive at ***or below*** the speed that is safe, prudent and reasonable for that road. Fifteen percent will drive above that speed. The idea is to set the speed to the 5 mph increment nearest the 85th percentile, with the goal of obtaining maximum compliance by the prudent drivers, and then the imprudent ones can be ticketed. If the speed is set too far below the 85th percentile, you don't change driver behavior, you merely increase

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1[1] ORS 801.170 and ORS 801.430
2[2] ORS 810.180 (5)

the number of violators and breed disrespect for speed postings. The only way to get compliance in that situation is to have 24-hour-per-day enforcement, in which case you have a speed trap.

In fact, the State Traffic Engineer's authority to designate speeds is limited to 10 mph below the 85th percentile on city streets, county roads, and state highways within city limits. On state highways outside of city limits, that authority is limited to 5 mph below the 85th percentile.

Let's say, for example, that you have a section of roadway that is a state highway inside the city limits, or maybe it's a city street or a county road. Let's also assume that an investigation showed the 85th percentile speed to be 46 mph. The investigator can recommend a speed to the State Traffic Engineer of either 45 mph or 40 mph, since both of those speeds are within that 10 mph range that he has the authority to establish. Which one of those two speeds the investigator ultimately recommends will depend on those other "subjective" factors mentioned earlier. Plainly, if a city or county has requested a posted speed of 35 mph, then we are out of luck, since that speed is outside the allowable 10 mph range.

Now let's assume that same 85th percentile of 46 mph was on a state highway ***outside*** the city limits. In that case, the only option available is a 45 mph recommendation, since the State Traffic Engineer's authority is now limited to 5 mph below the 85th percentile.

What actually slows the prudent driver down more than a sign with a speed on it (except in the case of rigorous enforcement), is what we call "roadside culture". In other words, do the surroundings make it appear to the driver that he/she should be going slower? Does the road look narrow (even if it's not)? Is there a lot of development that makes the area look more urban? (buildings, driveways, cross streets, bulbouts, sidewalks, etc.) Does the road have a lot of curves or hills? Is there a high volume of traffic, or maybe parked cars? Are there trees and shrubs that encroach on the roadway and limit visibility?

Conversely, if a road is wide, straight and flat, drivers have a tendency to speed up.

Extensive research has shown that speeds that are set artificially low are actually ***less*** safe than speeds that are properly set. This is probably because some otherwise prudent drivers become less so when they get frustrated and make unwise choices that put them in conflict with slower drivers that are only afraid of getting a ticket.

As an aside, the 55 mph postings on rural roads (non-freeway) don't fall under either the "statutory" or "designated" speeds as described above. Those postings are in place because the Basic Rule Laws (ORS 811.100 and ORS 811.105) provide that exceeding 55 mph on those roadway sections is "prima facie evidence" of having violated the Basic Rule. That prima facie evidence applies even if no 55 mph signs have been posted.