Reducing Traffic Speeds

Speed Limits, Stop Signs, and Physical Road Alterations

Residents often complain that traffic speeds are too high. Lower speeds can reduce accidents, traffic noise, air pollution, and energy consumption. This article describes various ways to slow traffic on existing roads, and their affects.

Speed Limits

Lower Posted Speed Limits reduce traffic speeds only when accompanied by enforcement, speed watch programs, and/or portable speed display signs. Drivers generally ignore posted speed limits if, in their judgment, the speed is not reasonable.

Police Enforcement lowers traffic speeds when police consistently issue tickets. However, cities and towns must commit personnel for a long time. When enforcement ends, drivers will return to the prior speeds.

Residents support and encourage enforcement on "their" street. However, neighborhood speeders are usually the local residents. Community opinion can turn negative when police cite residents.

Speed Watch Programs rely on volunteers to use a radar unit, and record speeds. Some neighborhoods set maximum speeds. Police send letters to those whose speeds exceed these maximums.

Speeds typically go down during the watch, but rise when it ends. Residents often find that no significant problem exists. Even though speeders are usually local residents, they usually perceive these programs positively.

RSAs 262 and 263 restrict a governing body's authority to set speed limits. Within those restrictions, a speed watch might be a low cost initial phase to slow speeders. Later phases can be the physical road alterations described below.

Portable Speed Display Boards show the speed limit and the driver's travel speed. Studies show small speed decreases when the device is present. A few studies show increases as the device challenges some drivers to speed. Recorded data can help police target enforcement times.

STOP Signs

Some towns install STOP signs as an immediate, tangible, and inexpensive response to residents' safety concerns. However, officials should note that STOP signs have some negative affects on safety. Speeds usually decrease only within about 100 feet before and after STOP signs. Drivers reach normal or higher speeds by midblock. While accelerating they take longer to stop for an emergency, such a child running into the street.

STOP Signs tell drivers where they must stop. Drivers tend to roll through "speed control" STOP signs. Many traffic engineers conclude that this disregard for STOP signs carries over to important STOP controlled locations.

For these and other reasons, the MUTCD recommends STOP signs only where engineering judgment indicates certain conditions. In Section 2B.05 it states "STOP signs should not be used for speed control."

Community reaction is usually mixed. Some view STOP signs as a safety improvement. Others view them as limiting movement where they most frequently drive. In addition, air quality worsens, and fuel consumption and noise increase near STOP signs.

Physical Road Alterations

Street Narrowing is the real or apparent reduction of the pavement width. Towns can narrow a road in several ways.

- Removing pavement surface lowers speeds only where there is a large width reduction. In some areas, reducing widths to less than 28 feet has increased accidents.
- Chokers are curb bulbs or median islands that narrow a street. They lower speeds in their immediate area. After passing them, drivers accelerate to normal speeds. Chokers can increase snow removal costs.

- Pavement markings indicate narrower than actual travel lanes. They rarely reduce speeds. Where pavement marking better defines the travel way, speeds have increased

Pavement removal and chokers are costly. Some towns include them in street beautification projects. Increased streetlights, landscaping, and activity also tend to slow motorists. Improved crossing point visibility and shorter street crossing time might improve pedestrian safety.

Speed Bumps, Humps, and Tables are raised areas in the roadway surface across the roadway. Speed bumps are 3 to 6 inches high with a length of 1 to 3 feet. Speed humps are 3 to 4 inches high and typically 12 feet long. Speed tables are essentially flat-topped speed humps, usually 22 feet long.

They all slow traffic. However, speed bumps can cause vehicle damage and loss of control. Traffic engineers strongly recommend AGAINST SPEED BUMPS.

Traffic engineers recommend speed humps only on streets where speed limits are 30 mph or less. Nationwide, agencies use speed tables on roads with less than 40 mph speed limits. In some places, fire departments have objected to speed humps, but found speed tables acceptable.

Both affect vehicle speeds along the road length when appropriately spaced. (See ITE, 1999, p. 63) If spacing is too far apart, speed decreases only in the immediate vicinity of the hump or table.

However, speed humps and tables often divert traffic, especially large trucks, to alternate routes. They can be uncomfortable for transit and school bus riders. Because humps and tables slow traffic, they reduce air quality impacts and energy use.

Most people living in the area initially favor speed humps and tables, but some tire of the inconvenience. Some cities require resident petitions and have a clear criterion for speed humps. (See Riverside CA. 1998., pp. 31-33)

Speed humps and tables are geometric design features. Officials should have engineers design their profile and spacing. Properly designed, they have minimal affect on snowplowing and street sweeping.

Introducing Curves on previously straight alignment can take two different forms:

1. Reconstruct the street with a curved centerline alignment and a uniform roadway width;
2. Introduce chokers or barriers on alternate sides of the street to create a serpentine travel path.

Speed changes little at curves if widths are uniform. There is some reduction near chokers and barriers. The closer the spacing the greater the speed reductions.

Engineers should design curves, chokers, and barriers. Vehicle flow and visibility issues can be complex. Pedestrian and bicycle traffic complicates design. Landscaping, often desired in such projects, can create visibility problems.

Speed Reduction and Costs

Police enforcement reduces traffic speeds, but can be expensive. Speed watch programs and display boards are relatively inexpensive but produce mixed and temporary speed reductions. STOP signs are cheap but reduce speeds only near the signs. The MUTCD and traffic engineers discourage their use for speed control.

Even though low cost, street narrowing by pavement marking is ineffective. Chokers and removing pavement surface have mixed effect on speeds. They have more affect when part of a street beautification project.

Properly designed speed humps and tables reduce speeds and have only initial significant cost. Introducing curves are usually even more expensive, and speed reduction depends on many factors.

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