Where to Place Marked Crosswalks? It Depends!

Crossing roads is dangerous. Motorists must slow or stop to enable safe pedestrian traffic. Marked crosswalks are one way to provide pedestrians the right of way. Improperly placed, however, they can put pedestrians at great risk.

MUTCD Section 3B.17 has specific standards and recommendations for marking crosswalks. (See page 11 to obtain a copy of the MUTCD.) Less clear is where to place them. This article will discuss the factors to consider in these decisions. It draws from a recent FHWA report of pedestrian injuries at intersection and midblock locations.

What is a Marked Crosswalk?

A "marked" crosswalk has lines of paint, thermoplastic, tape, or other material. The lines themselves legally define a crosswalk. At intersections, laws define a crosswalk whether or not marked. A crosswalk is that part of an intersection that connects sidewalks on opposite ends of a road. If there is a sidewalk on only one side, the crosswalk is in line with it to the other side.

Principally markings, but also other devices, help pedestrians and motorists define where crosswalks exist. Motorists expect to drive at the posted speed between intersections. They look for cars more than pedestrians at intersections. The MUTCD and state rules require marking other traffic control devices to alert drivers of crosswalks. (See *Road Business*, Fall 2001, p.1-2.) Whether or not they are marked, motorists are legally compelled to stop at intersection crosswalks. Some pedestrians walk on unmarked crosswalks expecting motorists to abide by that definition. When motorists don't, pedestrians get hurt.

The FHWA study also shows that pedestrians are often hurt at marked crosswalks. They guide pedestrian to the best place to cross They show motorists and pedestrians that a legal crosswalk exists at a particular location. Where to place them depends on many factors.

The Factors

As expected, researchers found that pedestrian injuries were fatal or more serious on roads above 35 mph than below it. Unexpected was the finding that speed limit was not a significant factor for crash frequency. The following factors did influence pedestrian crash rate.

Pedestrian and motorist differing definitions of a crosswalk.

Whether the crosswalk is marked or unmarked.

Vehicle traffic volume.

Pedestrian traffic volume.

Number of vehicle travel lanes.

Other treatments, such as curb extensions, raised crossing islands, traffic and pedestrian signals, roadway narrowing, enhanced overhead lighting, and traffic calming measures.

Recommendations for Marked Crosswalk

Agencies should use marked crosswalks with the "other treatments" described above. Cities and towns should consider marked crosswalks for the following conditions.

- Where vehicular traffic, when stopping for a stop sign or red light, might block pedestrian traffic. (Also note the location of the stop line; see Road Business, Summer 2002, p.6-7.)
- At non-signalized street crossing locations in designated school zones.

At other non-signalized locations, many of the above factors influence pedestrian crash frequency. Municipalities should, therefore, seek assistance of a traffic engineer. Properly placed, marked crosswalks increase pedestrian safety and mobility. Improperly placed, the municipality has placed pedestrians at risk of serious, at times fatal, risk.

Source:

Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations: Executive Summary and Recommended Guidelines. FHWA-RD-01-075, Federal Highway Administration, McLean VA March 2002