

# MARKED CROSSWALKS

## INTRODUCTION TO MARKED CROSSWALKS

## WHAT IS A CROSSWALK?

Pedestrians are legitimate users of the transportation system and they should be able to use the state highway system safely and without unreasonable delay. Providing marked crosswalks is one of many ways to facilitate crossings.

There have been many studies regarding the safety effects of marked crosswalks. Some studies contradict others regarding when a crossing location should be marked or unmarked, making the decision process challenging. Some studies indicate that as traffic volume and speeds increase, such as on a state highway, pedestrian accidents may increase more at marked crosswalks than at unmarked crosswalks.

When considering how to provide safer crossings for pedestrians, the question should NOT simply be: "Do I want a marked crosswalk or not?" Instead, the question should be: "What is the most effective measure that can be used to help pedestrians safely cross the street?" Selecting the appropriate measures depend on site conditions.

The Colorado Department of Transportation follows the national guidelines outlined in the federal Manual on Uniform Traffic Control Devices, the Traffic Control Devices Handbook, the Traffic Engineering Handbook, and other references. These references cover all aspects of the placement, construction and maintenance of all approved traffic control devices.

All traffic devices, including crosswalk markings and signs, must conform to the federal and state regulations for dimensions, color, wording and graphics. Uniformity of traffic control devices protects the clarity of their messages and ensures that signs or paint markings convey the same meaning at all locations.

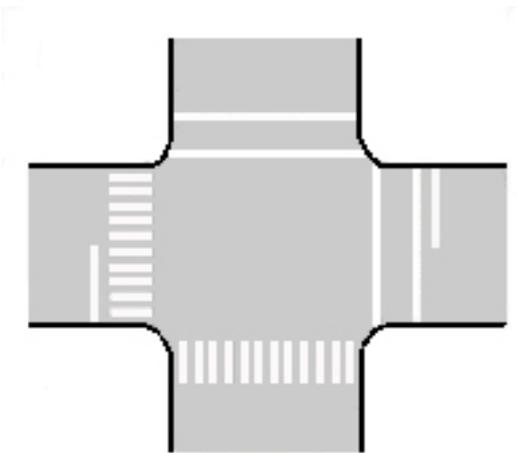
Legal crosswalk locations can be either marked or unmarked. Colorado statutes at section 42-1-102 (21) C.R.S., define a crosswalk as: ". . . that portion of a roadway ordinarily included within the prolongation or connection of the lateral lines of sidewalks at intersections or any portion of a roadway distinctly indicated for pedestrian crossing by lines or other marking on the surface."

Accordingly, legal crosswalks exist at all public street intersections whether marked or unmarked. However, the only way a crosswalk can exist at a mid-block location is if it is marked.

A marked crosswalk is any crosswalk, which is delineated by white painted markings placed on the pavement. Crosswalks consisting of pavement materials or colored concrete are 'unmarked' crosswalks unless white paint is also present. A crosswalk may be marked with special paint, thermoplastic materials, plastic tape, and other approved materials.



*The purpose of this brochure is to provide guidance to Colorado citizens who are considering installation of marked crosswalks on state highways as a solution to a pedestrian crossing need. It does not set decision criteria.*



Typical Crosswalk markings

## COLLISIONS AT MARKED CROSSWALKS

Research indicates that on multi-lane streets with more than 12,000 vehicles per day, pedestrian collisions are higher at marked versus unmarked crosswalks at uncontrolled locations. This is especially true on higher speed facilities. This appears to occur because pedestrians expect a motorist to stop for a pedestrian in a crosswalk. However, drivers frequently fail to stop and a collision results.

To be safe before crossing any street, pedestrians should always:

- ❖ Stop at the curb, edge of the road or corner of the intersection and scan for traffic before proceeding;
- ❖ Look left-right-left, and over their shoulder for turning vehicles; and
- ❖ Continue to check for traffic while crossing the street

Another frequent cause in pedestrian cross walk crashes is when the driver of a vehicle in the lane nearest to the curb stops for a pedestrian that is crossing in the crosswalk, but the motorist in the next vehicle passes the stopped vehicle and hits the pedestrian.

Pedestrians should be very cautious when walking in a crosswalk, especially when their visibility is limited by vehicles already stopped at the crosswalk as illustrated on the cover.

## REQUESTS AND INQUIRIES

If you have questions, requests or suggestions concerning traffic please call the State Department of Transportation, Safety and Traffic Engineering Branch, at: (303) 757- 9654.

Pedestrian and bicycle educational materials are available from the CDOT Bicycle/Pedestrian Program at 303-757-9982

Also [bicycleinfo@dot.state.co.us](mailto:bicycleinfo@dot.state.co.us)  
or at [www.dot.state.co.us/bikeped/](http://www.dot.state.co.us/bikeped/)

## HOW TO DETERMINE IF A CROSSWALK WILL BE REASONABLE, SAFE AND EFFECTIVE

Making a decision as to the appropriateness of a crosswalk is complex and many issues must be carefully analyzed. An engineering study is normally completed prior to approving a marked crosswalk at a new location. Some of the typical items reviewed include;

- ❖ the number of pedestrians that will be served
- ❖ the function of the highway
- ❖ the volume and speed of vehicles
- ❖ the width of the road
- ❖ both current and future predicted conditions
- ❖ the typical abilities of the pedestrians that would use the crosswalk (e.g., age, disabilities, etc)
- ❖ and if approved, who will pay for and then maintain the crosswalk.

Generally, the guidance for approving a marked crosswalk recommends that a minimum of 20 pedestrians should be crossing the roadway during the peak traffic hour before considering the installation of a marked crosswalk. Where the highway speed is in excess of 40 mph, additional devices such as traffic signals and beacons should be added. Mid-block crosswalks on state highways are not desirable.

While state laws require a motorist to yield to a person within a marked crosswalk, on highways with moderate to higher speeds and traffic volumes, such behavior is very rare. Crosswalks are not considered safety devices and are primarily used to assist and direct pedestrians along the safest route rather than to 'stop' traffic.

## WHERE ARE CROSSWALKS NORMALLY MARKED?

Crosswalks are marked at intersections where there is substantial conflict between vehicle and pedestrian movements, where significant pedestrian concentrations occur, where pedestrians could not otherwise recognize the proper place to cross, and where traffic movements are controlled. Examples of such locations are:

- ❖ Approved school crossings.
- ❖ Signalized and four way stop intersections.

## SCHOOL CROSSWALKS

Marked crosswalks for schools follow somewhat different criteria. Besides crosswalks at the immediate school site, other marked crosswalks may be approved if certain criteria is met and the nearest point of the crosswalk is not more than 600 feet from a school building or grounds.

Crosswalks should be marked at all intersections along the suggested route to school where the volume of children reaches about 40 in a two hour period. They should also be marked where there is conflict between vehicles and students trying to cross the street and where students may be permitted to cross between intersections.

The best safety measure is to educate children on how and where to safely cross the street.

