

# DESIGN MEMO 9.10

To: Designers, Contractors, and City Departments  
Date: January 10, 2023  
Subject: School Zones  
Category: Traffic

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## 1 Purpose

This document provides guidance on the current practices related to school zone signage, markings, and flashing beacon design and placement in the City of Columbus.

## 2 Applicability

Until further notice, this direction will be used for scoping, design, and construction of projects within the City of Columbus right-of-way.

The guidance provided in this memo is applicable to any school zone within the City of Columbus. School zones are established by ORC 4511.21 and are defined as “that portion of a street or highway passing a school fronting upon the street or highway that is encompassed by projecting the school property lines to the fronting street or highway, and also includes that portion of a state highway.” However, school zone related signage may go beyond the immediate school area and the school travel plan should be referenced for additional locations where school zone related signage and marking treatments may apply.

## 3 Standards and References

- City of Columbus [School Travel Plan](#)
- Ohio Manual of Uniform Traffic Control Devices (OMUTCD)
- ODOT Traffic Standard Construction Drawings

## 4 Definitions

Definitions of key terms in this memo are provided in City of Columbus Design Memo 1.00: Introduction.

## 5 Design Guidance

School zone signage and markings relate directly to the development and designation of school zones. Chapter 7 of the OMUTCD describes standard practices for the usage and placement of signs and markings in school zones.

School zone signage and markings consist of four primary elements:

- School zone warning signs and markings ahead of the school zone
- School speed limit signs at the beginning of the school zone
- End school speed limit signs at the end of the school zone
- Crossing warning signs placed in conjunction with crossing pavement markings

For an example of the application of school zone signage and markings, see **Figure 3**.



### 5.1 School Zone Warning Signs and Markings

A School Zone assembly consists of a City of Columbus W-82S sign (see **Figure 1**). A School Zone assembly shall be used at all street approaches to a school zone. This assembly should be posted at least 100 feet in advance of the beginning of the school zone.



**Figure 1: School Zone Assembly (City of Columbus W-82S)**

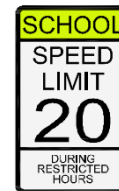
The School Zone assembly should be supplemented with school zone pavement markings. School zone pavement markings serve to draw attention to the presence of a school zone and consist of a SCHOOL word marking between two parallel transverse lines.

The SCHOOL word marking should be applied across all approach lanes. On two-lane roadways (one lane in each direction), the SCHOOL word marking should extend the entire width of all travel lanes. School zone pavement markings shall be placed to ensure they are completely visible; do not place them in such a way that parked vehicles will obscure the markings. See ODOT Standard Construction Drawing TC-71.10 for additional details on SCHOOL word markings.

School warning signage shall be fluorescent yellow-green.

### 5.2 School Speed Limit Signs

A School Speed Limit assembly consists of a combined School Speed Limit (S5-H1) sign (see **Figure 2**). A Flashing Beacon assembly may be used instead of the School Speed Limit assembly. For more information, see Section 5.4.



**Figure 2: School Speed Limit Assembly (S5-H1)**

School zones within the City of Columbus are signed at 20 mph. A School Speed Limit assembly shall be installed on each approach to the school zone near the beginning of the school zone. Additional school zone speed limit assemblies shall be installed wherever there is an intersecting street within the school zone that allows traffic to enter the school zone.

An END SCHOOL SPEED LIMIT (S5-3) sign shall be installed at the end of the school zone.

### 5.3 School Crossing Warning Signs and Crosswalk Markings

A School Crossing assembly shall be used to identify crossings in school zones where children cross the roadway at uncontrolled crosswalks. The School Crossing assembly shall consist of a School (S1-1) sign supplemented by a diagonal downward pointing arrow (W16-7P) plaque to show the location of the crossing.

On roadways with higher speed limits outside of school hours (35 mph or greater), a School Crossing Ahead assembly should be placed in advance of a School Crossing assembly for crossings that are considered school crossings but fall outside of the school zone. This shall consist of a School (S1-1) sign and an AHEAD (W16-9P) plaque or an XX FEET (W16-2P or W16-2aP) plaque.

All crosswalk markings within school zones shall consist of high-visibility Type II crosswalk markings.



School Crossing assemblies, School Crossing Ahead assemblies, and high-visibility Type II crosswalk markings should also be used at marked crosswalks outside of school zones that are along school priority corridors and listed within the latest school travel plan.

For more information on locations where crosswalks should be marked and additional enhancements that may be considered, see City of Columbus Design Memo 6.41: Marked Crosswalks.

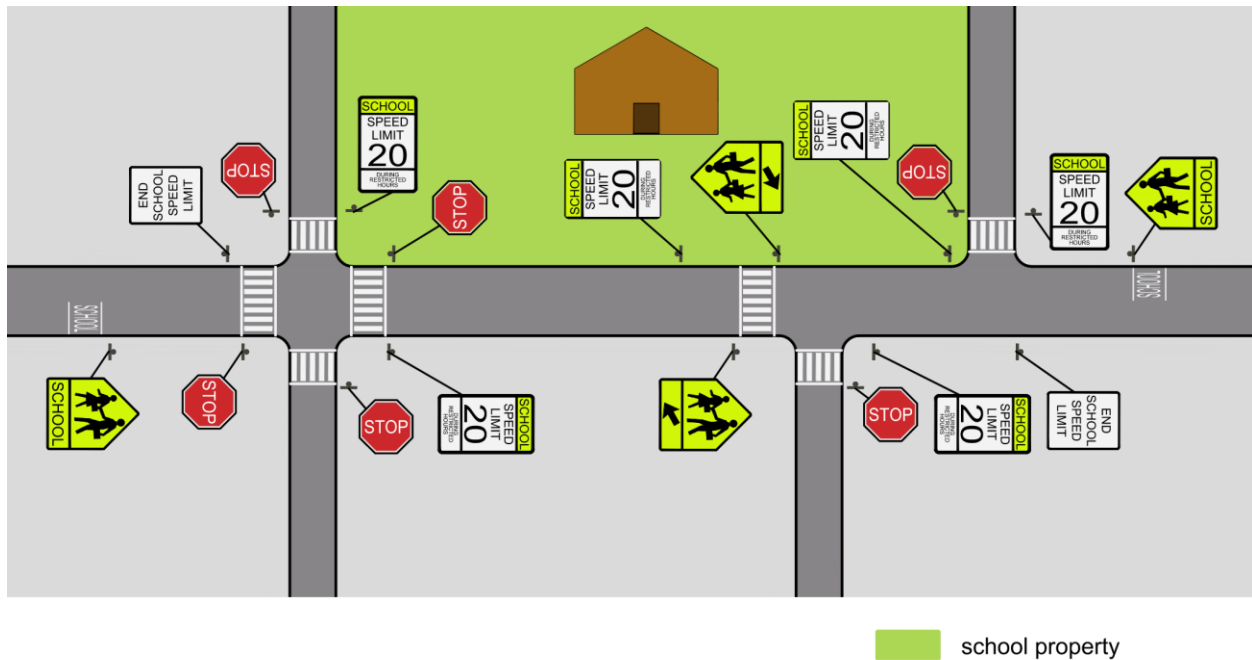


Figure 3: Example of School Zone Signage and Markings Application

## 5.4 Flashing Beacons at School Zones

Where existing School Zone Flashing Beacon assemblies are encountered on a project, designers must contact the City of Columbus School Zone Coordinator (SZC) to determine whether the flashing beacons should remain in place, re-erected, or replaced.

When new School Zone Flashing Beacon assemblies are installed, the SZC shall be notified by the contractor so the SZC can enter the beacon schedule.

### 5.4.1 Equipment and Signage

A School Zone Flashing Beacon assembly shall consist of two front-facing flashing yellow beacons and a rear-facing flashing yellow beacon for enforcement. Flashing beacons shall be 12" LED. Flashing beacons should be solar powered unless southern sunlight exposure cannot be achieved.

School Zone Flashing Beacon assembly signage shall consist of a School Speed Limit (S5-H1) sign. Signage shall be 30 inches wide by 54 inches tall.



#### 5.4.2 *Conditions for Overhead-Mounting*

School Zone Flashing Beacon assemblies shall be mounted on an overhead mast arm where:

- There are two or more lanes in the same direction,
- The posted speed limit outside of the school zone is 40 mph or greater, or
- When adequate sight distance to side-mounted units is not available.

## 6 Plan Requirements

School zone signs, markings, and flashing beacon assemblies shall be shown and detailed in the pavement markings and signing (traffic control) section of the plans on the plan view sheet(s) and a details sheet, as necessary.

### 6.1 Stage 1 Submittal Checklist

All items listed below shall be included on the Stage 1 pavement markings and signing plan when a School Zone Flashing Beacon assembly is used, at a minimum, in addition to pavement markings and signing plans requirements.

Existing infrastructure:

- Underground and overhead utilities
- Landscaping and other features which could obstruct visibility of School Zone Flashing Beacon assembly
- Bus stops and shelters

Proposed infrastructure:

- Underground and overhead utilities
- Landscaping and other features which could obstruct visibility of RRFB and crosswalk
- Bus stops and shelters
- School Zone Flashing Beacon pedestals and supports
- School Zone Flashing Beacon signs

A sight distance analysis exhibit shall also be submitted.

### 6.2 Stage 2 Submittal Checklist

In addition to the items outlined in the Stage 1 checklist, the items listed below shall be included on the pavement markings and signing plan for the Stage 2 submittal, at a minimum.

- Detailed callout information for School Zone Flashing Beacon pedestals and supports (station and offset, etc.)
- Typical sign support elevation detail and orientation detail
- School Zone Flashing Beacon pedestal/support pole fabrication, orientation, and data chart (if applicable)



### 6.3 Stage 3 Submittal Checklist

In addition to the items outlined in the Stage 1 and 2 checklists, items listed below shall be included on the pavement markings and signing plan for the Stage 3 submittal, at a minimum.

- School Zone Flashing Beacon assembly and pedestal/support plan notes (“Misc.” and “As Per Plan” notes, etc.)
- Estimate of quantities
- Standard Drawing references on Title Sheet

