

CROSSWALKS - MARKED

I. Responsibility

For County roadways, the installation and maintenance of crosswalk markings are under the Town's jurisdiction at both signalized and unsignalized locations. However, MCDOT must approve their installation across County roadways as deemed justified by an engineering analysis. Markings covered over due to any paving or resurfacing work will be the responsibility of the agency that did the work. Crosswalks in the City are under City jurisdiction. Currently, the City contracts with MCDOT to install/maintain/remove the markings and we also provide our traffic engineering expertise to the City. MCDOT owns and maintains all of the signs in the City and County.

II. Engineering Analysis for Crosswalks

There are advantages and disadvantages of marked crosswalks.

Advantages include:

- Helping to guide pedestrians across complex intersections and midblock locations.
- Designating the preferred path.
- Directing pedestrians to the location with best sight distance.

Disadvantages include:

- Possibly creating a "false sense of security" for pedestrians. Normal caution and proper crossing procedures still need to be exercised.
- Possibly generating a greater number of pedestrian collisions (compared to unmarked crossings) at uncontrolled locations on multilane streets with high traffic volume or high approach speeds.

All requests for a marked crosswalk shall proceed with some or all of the following studies.

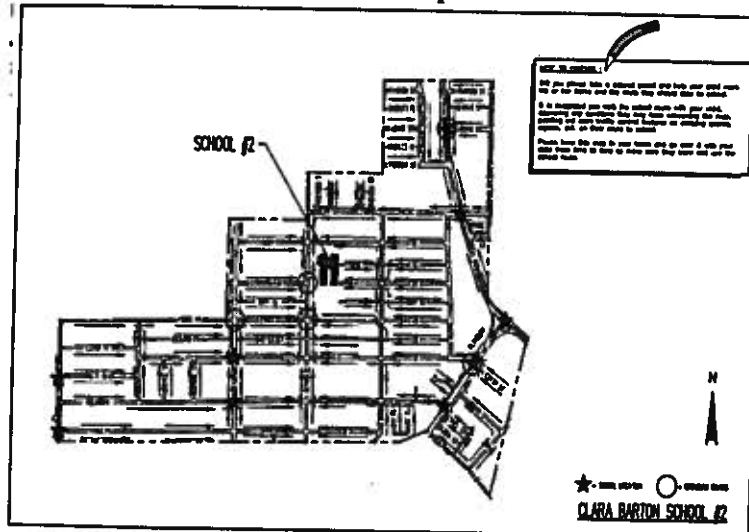
- Field review to identify existing signs, traffic controls, sight distance, and alternate crossing points
- Speed study of approaching vehicular traffic
- Pedestrian traffic counts
- Gap analysis study
- Possibly a special study type for unusual locations and/or traffic conditions

III. Additional Considerations

1. School Crossing

- If the request is in the city, the Safe School Route Map (see Figure 8) is consulted to determine if school children are directed to cross at the location. If outside the City, the school district and the town will need to be consulted to identify designated school crossings.

Figure 8 – Safe School Route Map



- Install at all designated school crossings at signalized intersections.
- Install across approaches controlled by a stop sign if a crossing guard exists or if the intersection is a pedestrian concentration point immediately adjacent to the school.
- Install midblock across the major street where no controls exist and students are designated to cross, and either adequate gaps exist or an adult crossing guard is present.

2. Multi-use Paths

Crossing locations where a multi-use path crosses a roadway should automatically be considered for crossing treatments regardless of pedestrian volumes. This is to promote the use of multi-use paths recognizing that roadway crossings often create barriers for pedestrians and bicyclists and may contribute to lack of use.

3. Sidewalk System Continuity

If there is a point where the sidewalk system either changes sides or changes from both sides to one side, crossing treatments should be considered at or near that point. The crosswalk would prompt pedestrians walking from sidewalk on both sides to sidewalk on one side to cross the road to the side where the sidewalk continues. New York State

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Vehicle & Traffic Law requires that pedestrians walk on sidewalk when it is available on either one or both sides. Walking against the directional flow of vehicular traffic either on a shoulder or in the road is allowed only when there is no sidewalk on either side.

4. Controlled Locations

- Marked crosswalks should be considered near pedestrian generators. Pedestrian generators include retail, parking lots, parks, churches, schools, restaurants, theaters, etc.
- To guide pedestrians as to the correct legs to cross at signalized intersections (i.e. – where there are pedestrian signals, fewest conflicts, etc.).
- At locations where vehicular traffic might block pedestrian traffic when stopping for a stop sign or red signal.
- To guide pedestrians crossing at an uncontrolled midblock location nearby to cross instead at the controlled location to take advantage of the gaps created by the control.

5. Uncontrolled Locations

Crossings at uncontrolled locations should be marked where all of the following are the case.

- Sufficient demand exists to justify the installation of a crosswalk.
 - The crosswalk would serve a number of pedestrians (ideally at least 20 pedestrians) per hour during the peak hour (15 if pedestrians are elderly or children) or 60 pedestrians total for the highest consecutive four hour period, OR
 - The crossing is a direct route to/from a pedestrian generator and serves at least some pedestrians. Use engineering judgment when evaluating this criterion.
- The location is at least 150 feet in a Central Business District (CBD) area, or 300 feet elsewhere, away from another crossing location (controlled or uncontrolled). If the nearest crossing is less than 150/300 feet away, the pedestrian volume should be at least two times the minimum.
- The location has sufficient sight distance that exceeds the minimum stopping sight distance as defined by AASHTO.
- The location is not adjacent to or near a school where it could redirect school walkers away from the designated school crossing point.
- Other safety considerations do not preclude use of a crosswalk. Crosswalks at uncontrolled crossing locations that are multilane, have very low gap availability, or high vehicular approach speeds may not be desirable for pedestrian safety and mobility. Use engineering judgment when evaluating this criterion.

IV. Recommended Crossing Treatments

1. Table of Treatments

Once it is determined that the criteria for crosswalk installation is met, the next step is to determine the appropriate level of treatment using the table on the next page. The table specifies progressive levels of treatment for locations as gap availability decreases, approach speeds go over 40 MPH, and if the roadway is multilane. If the crossing location is a designated school crossing, all signs must be Fluorescent Yellow Green (FYG) as required by the MUTCD.

2. In-Street “State Law - Yield to Pedestrians Within Crosswalk” Signs

MCDOT does not install or maintain in-street “State Law – Yield to Pedestrians within Crosswalk” signs. Requests of MCDOT for in-street “State Law - Yield to Pedestrians within Crosswalk” signs at crosswalks in the City of Rochester should be referred to the City for evaluation of the City’s written policy on these devices. Requests on County roadways outside the City are also evaluated based on the City’s criteria. If use of the devices is endorsed by MCDOT, the request will be referred to the Town for concurrence because the Town has ownership of the crosswalks on County roadways. Should the Town concur, they would have to obtain a no fee highway permit from MCDOT, purchase signs whose construction and materials comply with the MUTCD, and install/maintain/remove the signs in compliance with the MUTCD and our policy/special conditions.

3. ADA Compliance

Where installation of crosswalk markings is approved, suitable access to the crosswalk for handicapped and visually impaired pedestrians has to be facilitated by the installation of sidewalk curb ramps per ADA requirements. Installation of ramps is the responsibility of the City or Town. The ramps are to be constructed in compliance with either City or MCDOT construction specifications and details, depending on jurisdiction. The crosswalk markings may be installed ahead of the ADA ramps if the exact ramp locations are known and construction of the ramps is pending.

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Table of Possible Marked Crosswalk Treatments for Unsignalized Locations

<u>Gaps¹</u>	<u>85th % Speeds¹</u>	<u># Lanes¹</u>	<u>Crosswalk Markings³</u>	<u>Crosswalk Signs</u>	<u>Geometric Features⁶ (to consider)</u>	<u>Additional Control (to consider)</u>
Adequate ¹	Under 40 MPH	3 or less	Standard (STD) Crosswalk	Standard (STD) Yellow advance and crossing; Fluorescent Yellow Green (FYG) at a school crossing		
		4 or more	STD	STD or Enhanced ⁴ Yellow advance and crossing; Enhanced ⁴ FYG at a school crossing		
	40 MPH +	3 or less	STD or Continental	STD FYG advance and crossing		
Inadequate ²	Under 40 MPH	4 or more	STD or Continental	STD or Enhanced ⁴ FYG advance and crossing		
		3 or less	STD	STD FYG advance and crossing	Edgeline, bump-outs or islands	
	40 MPH +	4 or more	STD or Continental	STD or Enhanced ⁴ FYG advance and crossing	Edgeline, bump-outs or islands	Flasher ⁵ or Signal (if warranted)
		3 or less	STD or Continental	STD or Enhanced ⁴ FYG advance and crossing	Edgeline, bump-outs or islands	Flasher ⁵ or Signal (if warranted)
		4 or more	STD or Continental	Not allowed at a Signal	Not needed at a Signal	Signal (if warranted)

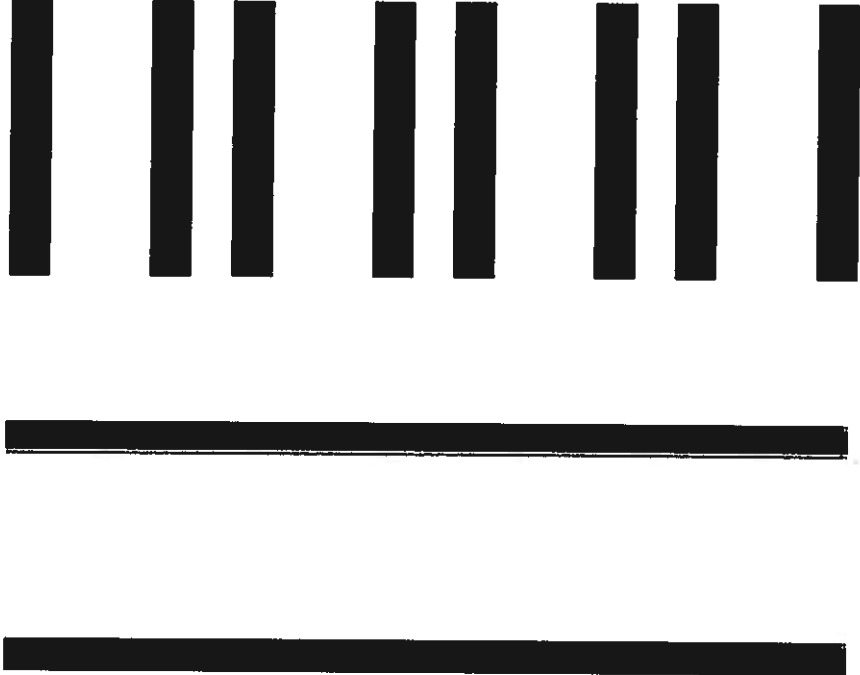
1. If a median usable as a pedestrian shelter exists, each direction of traffic is treated separately. The direction with the more unfavorable traffic conditions (fewer gaps, higher speeds, or more lanes) determines the level of devices installed in both directions.
2. Gaps are considered to be adequate if there are at least 60 gaps in traffic available during the peak hour long enough to cross the street at the proposed crosswalk location. If gaps are inadequate, a crosswalk is still marked but the level of treatment is higher.
3. Crosswalks markings are either Standard or Continental (higher visibility); see next page for figures. An existing standard crosswalk is adequate where continental is required until the next resurfacing/restriping opportunity. Where a textured crosswalk is used, standard crosswalk markings are also used.
4. Enhanced signs are defined as either oversized or double posted signs. Whether or not to use them, and which enhancement, is based on engineering judgment.
5. "Flasher" represents either flashing beacons on ground mounted signs (lower speeds/widths), or overhead mounted flashing beacons at the crosswalk (higher speeds/widths). Flashers can be used instead of or in conjunction with enhanced FYG. The choice is based on engineering judgment.
6. Bump-outs or islands are installed only if feasible and if a construction opportunity presents itself. Edgeline also reduces the effective pavement width the pedestrian must cross and thus creates gaps.

Other possible treatments that could be used in conjunction with treatments summarized above include:

- Advance yield lines plus "Yield Here to Pedestrians" signs
- In-Street "State Law - Yield to Pedestrians within Crosswalk" signs used as per the City/County policy.

Crosswalk Types Used by MCDOT

Standard* Continental



* Standard crosswalk also applicable when a textured crossing is installed